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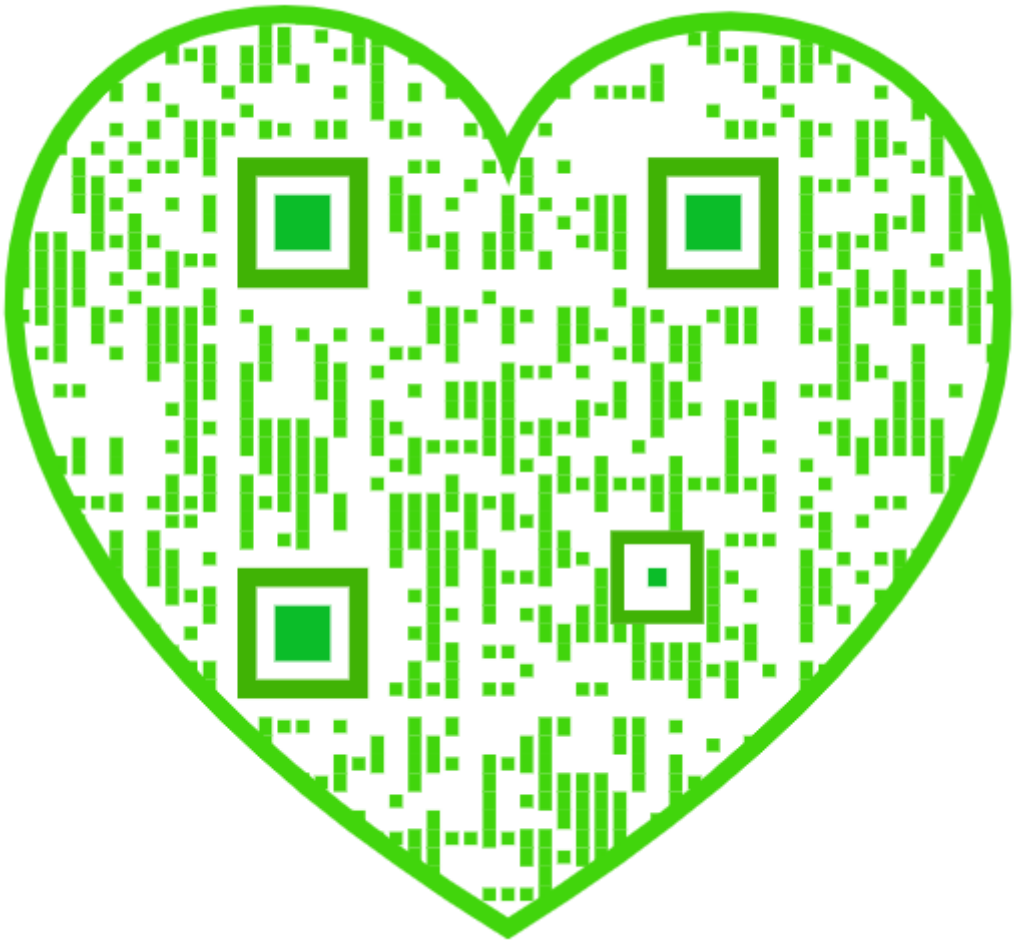

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TRANSACTIONS

OF THE

OBSTETRICAL SOCIETY

OF

LONDON.

VOL XLVIII.

FOR THE YEAR 1906.

WITH A LIST OF OFFICERS, FELLOWS, ETC.

EDITED BY

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AND

ROBERT BOXALL, M.D., Senior Secretary.

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1892 Turner, Sir William, M.B., F.R.C.S., F.R.S., Principal of the University of Edinburgh; 6, Eton terrace, Edinburgh.

1904 Williams, Sir John, Bart., K.C.V.O., M.D., F.R.C.P., Plâs Llanstephan, Carmarthenshire. *Council*, 1875-6, 1892, 1894. *Hon. Sec.* 1877-9. *Vice-Pres.* 1880-2. *Board Exam. Midwives*, 1881-2; *Chairman*, 1884-6. *Pres.* 1887-8. *Trans.* 12. *Trustee.*

FOREIGN.

Elected

1899 Budin, P., M.D., Professor, 51, Rue de la Faisanderie, Paris. *Trans.* 1.

1899 Martin, A. E., M.D., Professor of Obstetrics and Gynæcology, Greifswald. *Trans.* 1.

1899 Olshausen, R. M., Professor, N. Artilleriestrasse 19, Berlin.

1899 Pinard, A., Professor, 10, Rue Cambacérés, Paris.

1904 Pozzi, Samuel, M.D., 47, Avenue d'Iéna, Paris.

1895 von Winckel, Professor, Sonnenstrasse 16a, Munich.

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1906

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1900 Abbott, Horatio White, L.R.C.P.Lond., 66, Jackson road, Holloway, N.

1890† Ackerley, Richard, M.B., B.S.Oxon., Croft House, The Hill, Surbiton.

1891 Adams, Charles Edmund, M.R.C.S., 227, Gipsy road, West Norwood, S.E. *Council*, 1901.

1906† Adams, Evelyn Lancelot, M.B., B.S.Lond., 171, St. James's road, East Croydon.

1890 Addinsell, Augustus W., M.B., C.M.Edin., M.R.C.P., 10, Curzon street, W. *Council*, 1898-1900. *Trans.* 2.

1903 Aldrich-Blake, Louisa Brandrath, M.D., M.S.Lond., Surgeon to the New Hospital for Women, 17, Nottingham place, W.

1883*†Allan, Robert John, L.R.C.P.Ed., The Bungalow, Dulwich hill, Sydney, New South Wales.

1906† Allan, Thomas Sprot, L.R.C.P.&S.Edin., 67, Pitfield street, N.

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1887 Ambrose, Robert, B.A., L.R.C.P. & S.Ed., The Mount, Shoot-up hill, Brondesbury, N.W.

1901† Amsden, Walter, L.R.C.P.Lond., Seaford, Sussex.

1905† Anderson, Daniel E., M.B.Lond., M.D.Paris, 121, Avenue des Champs Élysées, Paris.

1875* Anderson, John Ford, M.D., C.M., 41, Belsize park, N.W. *Council*, 1882, 1898-9.

1903 Anderson, Louisa Garrett, M.D., B.S.Lond., Assistant Surgeon to the New Hospital for Women, 114A, Harley street, W.

1899 Andrews, E. Collingwood, M.A., M.D.Cantab., 110, Finchley road, South Hampstead, N.W.

1899 Andrews, Henry Russell, M.D., M.R.C.P.Lond., Assistant Physician to the London Hospital, 7, Wimpole street, W. *Council*, 1905–7. *Trans.* 2.

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1870*†Appleton, Robert Carlisle, M.R.C.S., The Bar House, Beverley.

1884 Appleton, Thomas A., M.R.C.S., 46, Britannia road, Fulham, S.W.

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1906 †Aubrey, George Ernest, M.B., B.S.Lond., Springfield, Chelmsford, Essex.

1898† Auden, George A., M.D., B.C.Cantab., 54, Bootham, York.

1887 Bailey, Henry Frederick, M.R.C.S., The Hollies, Lee terrace, Lee, S.E.

1869* Bantock, George Granville, M.D., Consulting Surgeon to the Samaritan Free Hospital; 14, Upper Hamilton terrace, N.W. *Council*, 1874-6. *Trans.* 2.

1886*†Barbour, A. H. Freeland, M.D.Edin., Lecturer on Midwifery and Diseases of Women, Edinburgh Medical School, 4, Charlotte square, Edinburgh. *Council*, 1898-1901. *Vice-Pres.* 1903–5.

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1884† Barraclough, Robert W. S., M.D., Seabourne House, Southbourne road, Bournemouth.

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1896† Belben, Frank, M.B., F.R.C.S., Redlands, Knyveton road, Bournemouth.

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1901 Blair, G. MacLellan, M.B., B.S., 93, Maida Vale, W.

1861*†Blake, Thomas William, M.D.St.And., Hurstbourne, Bournemouth, Hants.

1888* Bland-Sutton, John, F.R.C.S., Surgeon to the Middlesex Hospital; 47, Brook street, W. *Council*, 1894-5. *Trans.* 5.

1902† Boardman, Edith, M.D.Brux., Hyderabad Deccan India.

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1866* Boulton, Percy, M.D., Physician to the Samaritan Free Hospital; 15, Seymour street, Portman square, W. *Council*, 1878-80, 1885, 1896. *Hon. Lib.* 1886. *Hon. Sec.* 1886-9. *Vice-Pres.* 1890-2. *Board Exam. Midwives*, 1890-1. *Chairman*, 1897-1900. *Editor*, 1894-1900. *Trans.* 4.

1886† Boustead, Robinson, M.D., B.C. Cantab., Lieutenant-Colonel, Indian Medical Service; c/o Messrs. H. S. King and Co., 45, Pall Mall, S.W.

1899 Bowie, Albert W., M.B., C.M.Edin., 49, Bruce Grove, Tottenham, N.

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1884* Boxall, Robert, M.D.Cantab., Physician and Lecturer to the York Road (General Lying-in) Hospital; 40, Portland place, W. *Council*, 1888-90, 1894-5, 1899-1901. *Board Exam. Midwives*, 1891-3. *Hon. Lib.* 1902–3. *Hon. Sec.*, 1904-7. *Trans.* 13.

1902 Boyd, Florence Nightingale, M.D.Brux., L.R.C.P. and S.I., Senior Surgeon New Hospital for Women, Lecturer on Gynæcology London (Royal Free Hospital) School of Medicine for Women; 134, Harley street, W. *Trans.* 1.

1897 Boyd, John Stewart, L.R.C.P.Lond., Victoria House, Custom House, E.

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1888*†Briggs, Henry, M.B., F.R.C.S., Surgeon to the Hospital for Women, and Professor of Midwifery and Gynæcology, University College (Victoria University), Liverpool; 3, Rodney street, Liverpool. *Council*, 1901–3, 1907.

1894 Brinton, Roland Danvers, B.A., M.D.Cantab., 8, Queen's Gate terrace, S.W.

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1902† Brook, William Henry Breffit, M.D., B.S., F.R.C.S., 8, Eastgate, Lincoln. *Council*, 1907.

1868† Brown, Andrew, M.D. St. And., Mayfield, Royston park, Pinner. *Council*, 1893-4. *Trans.* 1.

1865* Brown, D. Dyce, M.D., 29, Seymour street, Portman square, W.

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1904 Brydone, James Marr, M.B., B.C.Cantab., 16, South Audley street, Grosvenor square, W.

1885*†Bunny, J. Brice, L.R.C.P.Ed., Bishop's Lydeard, Taunton.

1877† Burd, Edward, M.D., M.C., Senior Physician to the Salop Infirmary; Newport House, Shrewsbury. *Council*, 1886-7.

1894 Burt, Robert Francis, M.B., C.M.Edin., 76, Stapleton Hall road, Stroud Green, N.

1878 Butler-Smythe, Albert Charles, F.R.C.S.Ed., Surgeon to Out-patients, Samaritan Free Hospital; 76, Brook street, Grosvenor square, W. *Council*, 1889-91, 1904. *Vice-Pres.* 1905–7.

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1887* Buxton, Dudley W., M.D.Lond., 82, Mortimer street, Cavendish square, W.

1886† Byers, Sir John W., Kt., M.A., M.D., M.A.O. (Hon. Causâ), Professor of Midwifery and Diseases of Women and Children at Queen's College, and Physician for Diseases of Women to the Royal Hospital, Belfast; Dreenagh House, Lower crescent, Belfast. *Vice-Pres.* 1899-1902.

1891† Calthrop, Lionel C. Everard, M.B.Durh., Queen street, Droitwich, Worcestershire.

1887† Cameron, James Chalmers, M.D., Professor of Midwifery and Diseases of Infancy, McGill University; 941, Dorchester street, Montreal.

1887† Cameron, Murdoch, M.D.Glas., Regius Professor of Midwifery in the University of Glasgow, 7, Newton terrace, Charing Cross, Glasgow. *Council*, 1903–5.

1903† Cameron, Samuel James Murdoch, M.B., Ch.B.Glasg., 13, Sandyford place, Glasgow, W.

1902 Campbell, Janet, M.B., B.S.Lond., 86, Campden Hill Court, Kensington.

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1888*† Campbell, William Macfie, M.D. Edin., The Old House, Grassendale, Liverpool.

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1876* Champneys, Francis Henry, M.A., M.D. Oxon., F.R.C.P., Physician-Accoucheur to, and Lecturer on Midwifery at, St. Bartholomew's Hospital; 42, Upper Brook street, W. *Council*, 1880-1, 1900-1. *Hon. Lib.* 1882-3. *Hon. Sec.* 1884-7. *Vice-Pres.* 1888-90. *Board Exam. Midwives*, 1883, 1888-90; *Chairman*, 1891-5. *Editor*, 1888-93. *Pres.* 1895-6. *Treas.* 1902. *Trans.* 16. *Trustee.*

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1874*†Charlesworth, James, M.D., Physician to the North Staffordshire Infirmary; 25, Birch terrace, Hanley, Staffordshire.

1897† Chinery, Edward Fluder, F.R.C.S.Edin., Monmouth House, Lymington, Hants.

1863*†Chisholm, Edwin, M.D., 44, Roslyn gardens, Sydney, New South Wales.

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1906† Clifford, Harold, M.B.Lond., F.R.C.S.Edin., 15, St. John street, Manchester.

1906 Clutterbuck, Lewis Augustus, M.D.Durh., 43, Welbeck street, W.

1865*†Coates, Charles, M.D., Physician to the Bath General and Royal United Hospitals; 10, Circus, Bath.

1875* Coffin, Richard Jas. Maitland, F.R.C.P.Ed., 94 Sinclair road, W.

1905† Cohen, Rachel, M.B.Calc., F.R.C.S.I., 24, Chowringhi, Calcutta, India.

1875*†Cole, Richard Beverly, M.D. Jefferson Coll., Philad., 218, Post street, San Francisco, California, U.S.

1905† Collins, Victor Evelyn, M.B.Lond., Simonstown, Cape Colony.

1888 Cooper, Peter, L.R.C.P.Lond., Stainton Lodge, 35, Shooter's Hill road, Blackheath, S.E.

1875*†Cordes, Aug., M.D., M.R.C.P., Consulting Accoucheur to the "Miséricorde;" Privat Docent for Midwifery at the University of Geneva; 12, Rue Bellot, Geneva. *Trans.* 1.

1883 *Corner, Cursham, L.S.A., 113, Mile End road, E.

1903 Corthorn, Alice Mary, M.B., B.S.Lond., 30, St. Mary Abbot's terrace, Kensington.

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1893 Cripps, William Harrison, F.R.C.S., Surgeon to St. Bartholomew's Hospital; 2, Stratford place, W. *Trans.* 2.

1889† Croft, Edward Octavius, M.D.Durh., Hon. Surgeon to the Hospital for Women and Children; Hon. Demonstrator of Obstetrics to the Yorkshire College, Leeds; 33, Park square, Leeds. *Trans.* 1.

1881*†Cronk, Herbert George, M.B.Cantab., Repton, near Burton-on-Trent.

1893 Crosby, Herbert Thomas, M.A., M.B., B.C.Cantab., 19, Gordon square, W.C.

1895 Cross, Ernest W., L.R.C.P.Lond., The Limes, Wallwood park, Leytonstone.

1886*†Cross, William Joseph, M.B., Horsham, Victoria, Australia.

1898† Cullen, Thomas, M.D.Toronto, Johns Hopkins Hospital, Baltimore, U S.A.

1875* Cullingworth, Charles James, M.D., D.C.L., LL.D., F.R.C.P., Consulting Obstetric Physician to St. Thomas's Hospital; 14, Manchester square, W. *Council*, 1883-5, 1891-3, 1904-7. *Vice-Pres.* 1886-8. *Board Exam. Midwives*, 1889-91. *Chairman*, 1895-6. *Pres.* 1897-8. *Trans.* 14.

1905 Currie, George Burnett, M.D.Aber., St. James's avenue, Ealing, W.

1889*†Cursetji, Jehángir J., M.D. Brux., 77a, Gowalia Junk road, Bombay.

1894 Cutler, Lennard, L.R.C.P.Lond., 1, Kensington Gate, Kensington, W. *Trans.* 1.

1885 Dakin, William Radford, M.D., B.S., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, St. George's Hospital; 8, Grosvenor street, W., *Council*, 1889-91. *Hon. Lib.* 1892-3. *Hon. Sec.* 1894-7. *Vice-Pres.* 1898-1901. *Chairman*, 1901–4. *Trans.* 3. *Pres.* 1905–6.

1868 Daly, Frederick Henry, M.D., 185, Amhurst road, Hackney Downs, N.E. *Council*, 1877-9. *Vice-Pres.* 1883-5. *Trans.* 2.

Elected

1901 Daly, Frederick James Purcell, L.R.C.P.Lond., 188, Upper Clapton road, N.E.

1904† Das, Kedernath, L.M.S., M.B.Cal., M.D.Madras, Campbell Hospital, Calcutta.

1893 Dauber, John Henry, M.A.Oxon., M.B., B.Ch., Physician to the Hospital for Women, Soho square; 39, Hertford street, Mayfair, W.

1906† Davidson, H. Stevenson, M.B., Ch.B.Edin., 15, Leven Terrace, Edinburgh.

1892† Davis, Robert, M.R.C.S., Darrickwood, Orpington, Kent.

1891 Dawson, Ernest Rumley, L.R.C.P.Lond., 4, Grange Park road, Leyton, E. *Council*, 1904-6. *Trans.* 1.

1889 Des Vœux, Harold A., M.D.Brux., 214, Buckingham gate, S.W. *Council*, 1896-8.

1894 Dickinson, Thomas Vincent, M.D.Lond., M.R.C.P., Physician to the Italian Hospital, Queen square; 33, Sloane street, S.W. *Council*, 1900-2.

1894 Dickson, John William, B.A., M.B., B.C.Cantab., 42, Hertford street, Mayfair, W.

1886† Donald, Archibald, M.D.Edin., M.R.C.P., Obstetric Physician to the Royal Infirmary, Manchester; Honorary Surgeon to St. Mary's Hospital for Women, Manchester; Sunnyside, Victoria park, Manchester. *Council*, 1893-5. *Trans.* 3.

1879* Doran, Alban H. G., F.R.C.S., Surgeon to the Samaritan Free Hospital; 9, Granville place, Portman square, W. *Council*, 1883-5. *Hon. Lib.* 1886-7. *Hon. Sec.* 1888-91. *Vice-Pres.* 1892-4. *Pres.* 1899-1900. *Trans.* 24.

1890† Douty, Edward Henry, M.A., M.B., B.C.Cantab., La Madeleine, Cannes; (*Summer*, 7, rue St. Roch., Paris).

1887 Dovaston, Milward Edmund, M.R.C.S., Hatchcroft house, Hendon, N.W.

1899† Down, Elgar, L.R.C.P.Lond., Wingfield House, Stoke, Devonport.

Elected

1896 Downes, J. Lockhart, M.B., C.M.Edin., 269, Romford road, E.

1884† Doyle, E. A. Gaynes, L.R.C.P., The Shrubbery, San Fernando, Trinidad, West Indies.

1906 Drew, Douglas, B.S., F.R.C.S.Eng., 1, Harley street, W.

1894† Drew, Henry William, F.R.C.S., Eastgate, East Croydon.

1871* Eastes, George, M.B., F.R.C.S., 35, Gloucester terrace, Hyde park, W. *Council*, 1878-80, 1906-7.

1883† Eccles, F. Richard, M.D., Professor of Gynæcology, Western University ; 1, Ellwood place, Queen's avenue, London, Ontario, Canada.

1893* Eden, Thomas Watts, M.D.Edin., M.R.C.P.Lond., Assistant Obstetric Physician to, and Lecturer on Practical Midwifery at, Charing Cross Hospital, 26, Queen Anne street, W. *Council*, 1897-9, 1905-7. *Board Exam. Midwives*, 1903–5. *Trans.* 5.

1903† Edge, Frederick, M.D.Lond., F.R.C.S.Eng., 54, Darlington street, Wolverhampton.

1873*†Engelmann, George Julius, A.M., M.D., 336, Beacon street, Boston, Mass., U.S.A.

1905 English, Thomas Crisp, M.B.Lond., F.R.C.S., 47, Upper Brook street, W.

1897 Evans, Evan Laming, M.B., B.C.Cantab., F.R.C.S., 36, Bryanston street, Great Cumberland place, W.

1875† Ewart, John Henry, M.R.C.S., L.R.C.P., Eastney, Devonshire place, Eastbourne. *Council*, 1904-6.

1899 Fairbairn, John Shields, M.B., B.Ch.Oxon., Assistant Obstetric Physician to St. Thomas's Hospital, 60, Wimpole street, W. *Council*, 1904-7. *Board Exam. Midwives*, 1904-5. *Trans.* 1.

1894 Fairweather, David, M.A., M.D., C.M.Edin., Alderman's hill, Palmer's green, N.

Elected

1876† Farncombe, Richard, M.D.Brux., 183, Belgrave road, Balsall heath, Birmingham.

1903† Farncombe, William Turberville, M.D., Harborne, Birmingham.

1869* Farquhar, William, M.D., Deputy Surgeon-General, 40, Westbourne gardens, Bayswater, W.

1882† Farrar, Joseph, M.D., Gainsborough. *Trans.* 1.

1894† Fazan, Charles Herbert, L.R.C.P.Lond., Belmont, Wadhurst, Sussex.

1868* Fegan, Richard, M.D., Westcombe park, Blackheath, S.E.

1883 Fenton, Hugh, M.D., Physician, Chelsea Hospital for Women; 27 George street, Hanover square, W.

1893† Finley, Harry, M.D.Lond., West Malvern, Worcestershire.

1877*†Fonmartin, Henry de, M.D., 26, Newberry terrace, Lower Bullar street, Nichols Town, Southampton.

1897† Fothergill, W. E., M.B., C.M.Edin., Lecturer on Midwifery and Diseases of Women, Victoria University; Assistant Physician Northern Hospital for Women and Children, Manchester; 13, St John Street, Manchester.

1884 Fouracre, Robert Perriman, M.R.C.S., 89, Tollington park, N.

1886† Fowler, Charles Owen, M.D., Cotford House, Thornton heath. *Council*, 1901–3.

1898† Frampton, Trevethan, M.R.C.S., F.R.C.P., 15, Brunswick square, Brighton.

1875*†Fraser, Angus, M.D., Physician and Lecturer on Clinical Medicine to the Aberdeen Royal Infirmary; 232, Union street, Aberdeen. *Council*, 1897-1900.

1888† Fraser, James Alexander, L.R.C.P.Lond., Western Lodge, Romford.

1902† Freeland, Arthur Raymond Stilwell, L.R.C.P., M.R.C.S., The Green Hall, Ashbourne, Derbyshire.

Elected

1905 Fuller, Arthur W., M.D.Edin., 32, Old Burlington street, W.

1883* Fuller, Henry Roxburgh, M.D.Cantab., 45, Curzon street, Mayfair, W. *Council*, 1893. *Trans.* 1.

1905 Fuller, J. Reginald, M.D.Durh., 6, Crescent road, Crouch End, N.

1886† Furner, Willoughby, F.R.C.S., 13, Brunswick square, Brighton. *Council*, 1894-6.

1874* Galabin, Alfred Lewis, M.A., M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at, Guy's Hospital; 49, Wimpole street, Cavendish square, W. *Council*, 1876-8. *Hon. Lib.* 1879. *Hon. Sec.* 1880-3. *Vice-Pres.* 1884. *Treas.* 1885-8. *Pres.* 1889-90. *Trans.* 12.

1888† Galloway, Arthur Wilton, L.R.C.P.Lond., Malverns, Epping.

1863* Galton, John H., M.D., Chunam, Sylvan road, Upper Norwood, S.E. *Council*, 1874-6, 1891-2. *Vice-Pres.* 1895-8.

1881 Gandy, William, M.R.C.S., Hill Top, Central hill, Norwood, S.E. *Council*, 1897-8.

1886*†Garde, Henry Croker, F.R.C.S.Edin., Maryborough, Queensland.

1887 Gardiner, Bruce H. J., M.D., Gloucester House, Barry road, East Dulwich, S.E.

1879 Gardner, John Twiname, 5, Embankment gardens, Chelsea, S.W.

1872*†Gardner, William, M.A., M.D., Professor of Gynæcology. McGill University; Gynæcologist to the Royal Victoria Hospital; 109, Union avenue, Montreal, Canada.

1873*†Garton, William, M.D., F.R.C.S., Inglewood, Aughton, near Ormskirk.

1901 Gayer, Reginald Courtenay, L.R.C.P., 33, Stanhope gardens, South Kensington, S.W.

Elected

1889* Gell, Henry Willingham, M.A., M.B.Oxon., 36, Hyde park square, W.

1898*†Gemmell, John Edward, M.B., C.M.Edin., Hon. Surgeon to the Hospital for Women, Liverpool; 12, Rodney street, Liverpool.

1902*†George, Jessie, L.R.C.P., L.R.C.S.Edin., 42, Marsden street, Calcutta, India.

1859*†Gervis, Henry, M.D., F.R.C.P., Consulting Obstetric Physician to St. Thomas's Hospital; The Towers, Hillingdon, Uxbridge. *Council*, 1864-6, 1889-91, 1893. *Hon. Sec.* 1867-70. *Vice-Pres.* 1871-3. *Treas.* 1878-81. *Pres.* 1883-4. *Trans.* 8.

1866* Gervis, Frederick Heudebourck, M.D.Brux., 1, Fellows road, Haverstock hill, N.W. *Council*, 1877-9. *Vice-Pres.* 1892. *Trans.* 1.

1899† Gervis, Henry, M.A., M.B., B.C.Cantab., 74, Dyke road, Brighton.

1883* Gibbons, Robert Alexander, M.D., Physician to the Grosvenor Hospital for Women and Children; 29, Cadogan place, S.W. *Council*, 1889-90. *Trans.* 1.

1894 Gibson, Henry Wilkes, L.R.C.P.Lond., 6, College terrace, Fitzjohn's avenue, N.W.

1892 Giles, Arthur Edward, M.D.Lond., M.R.C.P., Physician to Out-patients, Chelsea Hospital for Women; 10, Upper Wimpole street, W. *Council*, 1898-1900. *Trans.* 7.

1891† Gimblett, William Henry, M.D.Durh., "La Roche," Onslow gardens, Wallington, Surrey.

1899† Glover, Thomas Anderson, M.D., C.M.Edin., 24, Hallgate, Doncaster.

1894† Goddard, Charles Ernest, M.D., Wembley, Harrow.

1871 *Godson, Clement, M.D., C.M.; 82, Brook street, W. *Council*, 1876-7. *Hon. Sec.* 1878-81. *Vice-Pres.* 1882-4. *Board Exam. Midwives*, 1877, 1882-86. *Trans.* 5.

Elected

1893† Gordon, Frederick William, L.R.C.P.Lond., Manukau road, Auckland, New Zealand.

1883 Gordon, John, M.D., 49, Newgate street, E.C.

1869† Goss, Tregenna Biddulph, M.R.C.S., 1, The Circus, Bath. *Hon. Loc. Sec.*

1891† Gostling, William Ayton, M.D., B.S.Lond., Barningham, West Worthing.

1889 Goullet, Charles Arthur, L.R.C.P.Lond., 2, Finchley road, N.W. *Council* 1902–5.

1890 Gow, William John, M.D.Lond., Physician-Accoucheur in charge of Out-patients, St. Mary's Hospital; 27, Weymouth street, W. *Council*, 1893-5-1901. *Board Exam. Midwives*, 1898-1900-1. *Hon. Lib.*, 1906-7. *Trans.* 2.

1893† Gowan, Bowie Campbell, L.R.C.P.Lond., Raven Dene, Great Stanmore.

1893 Grant, Leonard, M.D.Edin., Hillside, New Southgate, N.

1902† Grech, Salvatore, M.D.Malta, Professor of Obstetrics in the University of Malta; Accoucheur and Gynæcologist and Teacher of Practical Midwifery at the Central Civil Hospital; 31, Strada Mezzodi, Valetta, Malta.

1894† Green, Charles Robert Mortimer, M.D., F.R.C.S.Eng., Lieut.-Colonel, Indian Medical Service, c/o Thomas Cook and Sons, Ludgate Circus, E.C.

1863 *Griffith, G. de Gorrequer, M.R.C.S., L.R.C.P., 34, St. George's square, S.W. *Trans.* 2.

1879* Griffith, Walter Spencer Anderson, M.D.Cantab., F.R.C.S., F.R.C.P., Assistant Physician-Accoucheur to St. Bartholomew's Hospital; 96, Harley street, W. *Council*, 1886-8, 1893-5, 1901–3. *Hon. Lib.* 1896-7. *Board Exam. Midwives*, 1887-9. *Trans.* 11.

Elected

1888*†Grimsdale, Thomas Babington, B.A., M.B.Cantab., Surgeon to the Hospital for Women, and Medical Officer to the Liverpool Lying-in Hospital; 29, Rodney street, Liverpool.

1880 Grogono, Walter Atkins, M.R.C.S., L.R.C.P., Witham Lodge, 171, Romford road, Stratford, E.

1896† Groves, Ernest W. Hey, M.B., B.Sc., 16, Richmond Hill, Clifton. *Trans.* 1.

1894 Hamilton, Bruce, L.R.C.P.Lond., Glenbrook, 5, Crediton road, West Hampstead, N.W.

1887† Hamilton, John, F.R.C.S.Ed., Beechhurst House, Swadlincote, Burton-on-Trent.

1906 Hamilton, William Gavin, Capt. I.M.S., M.R.C.S.& L.R.C.P.Lond., c/o Messrs. Grindlay and Co., 54, Parliament street, S.W.

1883* Handfield-Jones, Montagu, M.D.Lond., F.R.C.P., Physician-Accoucheur to, and Lecturer on Midwifery and Diseases of Women at, St. Mary's Hospital; 35, Cavendish square, W. *Council*, 1887-9, 1896-7. *Board Exam. Midwives*, 1894-6. *Hon. Lib.* 1900-3. *Hon. Sec.* 1902–5. *Vice.-Pres.* 1906-7. *Trans.* 1.

1901 Handley, William Sampson, M.S., M.D.Lond., F.R.C.S.Eng., 77, Wimpole street, W. *Council*, 1905–6. *Trans.* 2.

1906† Harke, Sydney L., L.R.C.P., "Gairloch," Church road, Upper Norwood, S.E.

1892 Harold, John, M.B., B.Ch., B.A.O., 91, Harley street, W.

1877 Harper, Gerald S., M.B.Aber., 40, Curzon street, Mayfair, W. *Council*, 1894-5.

1898† Harper, John Robinson, L.R.C.P., Bear street, Barnstaple, Devon.

1878† Harries, Thomas Davies, F.R.C.S., Grosvenor House, Aberystwith, Cardiganshire.

Elected

1867*†Harris, William H., M.D., Deputy Surgeon-General, Shirley, Parklands, Surbiton.

1880* Harrison, Richard Charlton, M.R.C.S., L.R.C.P., 33, Uxbridge road, Ealing, W.

1890† Hart, David Berry, M.D.Edin., Assistant Gynæcologist, Royal Infirmary, Edinburgh; 29, Charlotte square, Edinburgh. *Council* 1902–5.

1886† Hartley, Horace, L.R.C.P.Ed., Stone, Staffordshire.

1893 Harvey, John Jordan, L.R.C.P. & S.Edin., The Aviary, Canning Town, E.

1880 Harvey, John Stephenson Selwyn, M.D.Durh., M.R.C.P., 1, Astwood road, Cromwell road, S.W.

1905† Haultain, Francis William Nicol, M.D., F.R.C.P.Edin., 12, Charlotte square, Edinburgh.

1899† Hawes, Godfrey Charles Browne, L.R.C.P., Pangbourne, Reading.

1899*†Hawkes, Claude Somerville, L.R.C.P., Swansea place, Wickham Terrace, Brisbane, Queensland.

1893† Haydon, Thomas Horatio, M.B., B.C. Cantab., 22, High street, Marlborough.

1900† Hayford, Ernest James, M.D., c/o The Agent, Claude's Ashanti Goldfields, Ltd., Cape Coast Castle, Gold Coast, West Africa.

1901† Haynes, Edward James Ambrose, F.R.C.S.I., Weetalabah, Hay street west, Perth, Western Australia.

1903† Heilborn, William Ernest, M.B., B.Ch.Cantab., 6, Walmer place, Bradford, Yorks.

1892† Hellier, John Benjamin, M.D.Lond., Lecturer on Diseases of Women and Children, Yorkshire College; Hon. Obstetric Physician to Leeds Infirmary; 27, Park square, Leeds. *Council*, 1906-7.

Elected

1890† Helme, T. Arthur, M.D.Edin., M.R.C.P., Hon. Surgeon for Women to the Northern Hospital for Women and Children, Manchester, 3, St. Peter's square, Manchester.

1867† Hembrough, John William, M.D., St. Nicholas Chambers, Newcastle-on-Tyne.

1906† Henchley, Albert Richard, M.D.Brux., L.R.C.P.&S. Edin., 1, London road, Canterbury.

1876* Herman, George Ernest, M.B., F.R.C.P., Consulting Obstetric Physician to the London Hospital; 20, Harley street, Cavendish square, W. *Council*, 1878-9, 1898-1901. *Hon. Lib.* 1880-1. *Hon. Sec.* 1882-5. *Vice-Pres.* 1886-7. *Board Exam. Midwives*, 1886-8. *Treas.* 1889-92, 1903-7. *Pres.* 1893-4. *Trans.* 35.

1903 Hicks, Henry Thomas, F.R.C.S.Eng., 15, Portman street, W. *Council* 1907.

1901† Hilliard, Francis Porteus Tyrrell, M.A., M.B.Oxon., St. Giles' Hill, Winchester.

1886† Holberton, Henry Nelson, L.R.C.P.Lond., East Molesey.

1906 Holland, Eardley L., M.B., B.S.Lond., F.R.C.S.Eng., Queen Charlotte's Hospital, N.W.

1891† Holman, Robert Colgate, M.R.C.S., Whithorne House, Midhurst, Sussex.

1864* Hood, Wharton Peter, M.D., 11, Seymour street, Portman square, W.

1906 Hope, George, D.P.H., L.R.C.P., M.R.C.S.Lond., Beaconsfield House, 47, Uxbridge road, Hanwell, W.

1896† Hopkins, George Herbert, F.R.C.S., 3, North Quay, Brisbane, Queensland.

1905† Hopkins, Lionel Gordon, M.D.Lond., "The Leas," Westcliffe-on-Sea, Essex.

Elected

1883* Horrocks, Peter, M.D., F.R.C.P.Lond., Obstetric Physician to Guy's Hospital; 42, Brook street, W. *Council*, 1886-7. *Hon. Lib.* 1888-9. *Hon. Sec.* 1890-3. *Vice-Pres.* 1894-6. *Pres.* 1901–2. *Trans.* 2.

1876 Horsman, Godfrey Charles, L.S.A., 22, King street, Portman square, W.

1883 Hoskin, Theophilus, L.R.C.P.Lond., 1, Amhurst park, N.

1879† Hubbard, Thomas Wells, L.R.C.P., L.R.C.S., Barming place, Maidstone.

1901 Humphreys, Francis Rowland, L.R.C.P.Lond., 2, Chalcot gardens, England lane, South Hampstead, N.W.

1884*†Hurry, Jamieson Boyd, M.D.Cantab., 43, Castle street, Reading. *Council*, 1887-9, 1907. *Vice.-Pres.* 1897-1900. *Trans.* 2.

1878*†Husband, Walter Edward, M.R.C.S., L.R.C.P., Grove Lea, Lansdown, Bath.

1895 Huxley, Henry, L.R.C.P.Lond., 39, Leinster gardens, Hyde park, W.

1904† Illington, Edmund Moritz, Capt. I.M.S., L.R.C.P., c/o Surgeon-General, with the Government of Madras, Madras.

1894† Ilott, Herbert James, M.D.Aber., 57, High street, Bromley, Kent.

1901† Inglis, Arthur Stephen, M.D.Aber., 2, East ascent, St. Leonards-on-sea.

1902† Inglis, John, M.D., 14, Eversfield place, St. Leonards-on-Sea.

1902† Ionides, Theodore Henry, M.B., B.S.Lond., 25, First avenue, Brighton.

1903 Ironside, Robert Adrian, M.D., C.M.Aber., Campbell House, Fitzjohn's avenue, N.W.

Elected

1884*†Irwin, John Arthur, M.A., M.D., 14, West Twenty-ninth street, New York.

1904 Ivens, Mary H. Frances, M.B., M.S.Lond., Honorary Medical Officer for the Diseases of Women, Stanley Hospital, Liverpool, 1a, Rodney Street, Liverpool.

1897 Jäger, Harold, M.B.Lond., 6, Darnley road, Royal crescent, W.

1890† James, Charles Henry, L.R.C.P.Lond., Major, Indian Medical Service; Patiala, Punjab, India.

1883*†Jenkins, Edward Johnstone, M.D.Oxon., 213, Macquarie street, Sydney.

1882*†Jennings, Charles Egerton, M.D.Durh., F.R.C.S.Eng., Assistant Surgeon to the North-West London Hospital; Burke House, Beaconsfield.

1901*†Johnson, Edward Angus, M.B., B.S.Melb., L.R.C.P. Lond., "St. Catharine's" Prospect, South Australia.

1868† Jones, Evan, M.R.C.S., Ty-Mawr, Aberdare, Glamorganshire. *Council*, 1886-8. *Vice.-Pres.* 1890-1.

1894 Jones, Evan, L.R.C.P.Lond., 89, Goswell road, E.C

1902† Jones, Evan James Trevor, M.D.Brux., Ty-Mawr, Aberdare, Glamorganshire.

1895† Jones, George Horatio, M.R.C.S., Deddington, Oxon.

1894† Jones, John Arnallt, M.D.Durh., Heathmont, Aberavon, Port Talbot, Glamorganshire.

1873† Jones, Philip W., M.R.C.S., L.R.C.P., River House, Enfield.

1886† Jones, William Owen, M.R.C.S., The Downs, Bowdon, Cheshire.

1903† Jordan, John Furneaux, M.B., F.R.C.S., Surgeon to the Birmingham Hospital for Women, 9, Newhall street, Birmingham.

1883† Keeling, James Hurd, M.D., 267, Glossop road, Sheffield.

Elected

1896 KEEP, ARTHUR CORRIE, M.D., C.M.Edin., Surgeon to Out-patients to the Samaritan Free Hospital; 14, Gloucester place, Portman square, W. *Council*, 1902-4.

1894 KELLETT, ALFRED FEATHERSTONE, M.B., B.C.Cantab., 39, Granville park, Blackheath, S.E.

1886 KENNEDY, ALFRED EDMUND, L.R.C.P.Ed., Chesterton House, Plaistow, E.

1879 KER, HUGH RICHARD, L.R.C.P.Ed., Tintern, 2, Balham hill, S.W.

1895† KERR, JOHN MARTIN MUNRO, M.B., C.M.Glasg.; Obstetric Physician to the Glasgow Maternity Hospital; 28. Berkeley terrace, Glasgow. *Council*, 1906-7. *Trans.* 2.

1877*†KERSWILL, JOHN BEDFORD, M.R.C.P.Ed., Fairfield, St. German's, Cornwall.

O.F.* KIALLMARK, HENRY WALTER, M.R.C.S., 5, Pembridge gardens, Bayswater. *Council*, 1879-80.

1872* KISCH, ALBERT, M.R.C.S., 61, Portsdown road, W. *Council*, 1896-7.

1876*†KNOTT, CHARLES, M.R.C.P.Ed., Liz Ville, Elm grove, Southsea.

1889 LAKE, GEORGE ROBERT, M.R.C.S., 177, Gloucester terrace, Hyde park, W.

1867* LANGFORD, CHARLES P., M.R.C.S., Sunnyside, Hornsey lane, N.

1894† LEA, ARNOLD W. W., M.D., B.S.Lond., F.R.C.S., Lecturer on Midwifery and Diseases of Women, Owens College 274, Oxford road, Manchester. *Council*, 1903-6. *Trans.* 2.

1901 LEAHY-LYNCH, TIMOTHY, L.R.C.P., L.M.Edin., 2, Finsbury park road, N.

1905 LEAKEY, ALEXANDER B., M.B., B.Ch.Edin., 84, Pine road, Cricklewood, N.W.

1884*†LEDIARD, HENRY AMBROSE, M.D., 26, Lowther street, Carlisle. *Council*, 1890-2. *Trans.* 1.

Elected

1903† Leicester, John Cyril Holdich, M.D., B.S., F.R.C.S. Eng., Captain, Indian Medical Service, c/o Messrs. Grindlay & Co., Calcutta. *Trans.* 1.

1902† Lendon, Alfred Austin, M.D.Lond., Lecturer on Obstetrics in the University of Adelaide, North terrace, Adelaide, South Australia.

1897 Leslie, William Murray, M.D.Edin., 74, Cadogan place, Belgrave square, S.W.

1900*†Levison, Hugo Adolf, M.D.(Columbia Univ.), L.R.C.P. Lond., 44, West 35th street, New York.

1885* Lewers, Arthur H. N., M.D.Lond., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery at the London Hospital; 43, Upper Brook street, W. *Council*, 1887-9, 1893, 1901-3. *Board Exam. Midwives*, 1895-7. *Hon. Lib.* 1904–5. *Hon. Sec.* 1906-7. *Trans.* 13.

1902 Lewis, Ernest Wool, L.R.C.P., M.R.C.S., The Hermitage, Fulham Palace road, S.W.

1901† Littlewood, Harry, F.R.C.S., 25, Park square, Leeds. *Trans.* 1.

1894 Livermore, William Leppingwell, L.R.C.P.Lond., 52, Stapleton Hall road, Stroud Green, N.

1899 Lockyer, Cuthbert, M.D., B.S.Lond., F.R.C.S., 117a, Harley street, W. *Council*, 1904–7. *Board Exam. Midwives*, 1905. *Trans.* 6.

1905† Longridge, Charles John Nepean, M.D.Vict., F.R.C.S. Eng., 30, Wimpole street, W.

1893† Lowe, Walter George, M.D.Lond., F.R.C.S., Burton-on-Trent.

1878*†Lycett, John Allan, M.D., Consulting Gynæcologist to the Wolverhampton and District Hospital for Women; "Gatcombe," Wolverhampton.

1905† Lyle, Robert Patton Ranken, M.D.Dubl., 11, Ellison place, Newcastle-on-Tyne.

1902† Lynn, Edward, M.R.C.S., 638, Woolwich road, New Charlton, Kent.

Elected

1890 McCann, Frederick John, M.D., C.M.Edin., F.R.C.S. Eng., M.R.C.P., Physician to In-patients at the Samaritan Hospital; 5, Curzon street, Mayfair, W. *Council*, 1897-8. *Board Exam. Midwives*, 1904–5. *Trans.* 3.

1894† McCausland, Albert Stanley, M.D.Brux., Churchill House, Swanage.

1894† McDonnell, Æneas John, M.D., Ch.M.Sydney, Rathdonnell, Toowoomba, Queensland.

1906† McIlroy, Louise, M.D., Gynæcologist to the Glasgow Victoria Infirmary; 26, Sandyford place, Glasgow. *Trans.* 1.

1892† McKay, W. J. Stewart, M.B., M.Ch.Sydney, Australian Club, Macquarie street, Sydney, N.S.W.

1897† McKerron, Robert Gordon, M.B.Aberd., 1, Albyn place, Aberdeen. *Trans.* 2.

1900† Macan, Jameson John, M.A., M.D.Cantab., Crossgates, Cheam, Surrey.

1893† Maclean, Ewen John, M.D., F.R.S.Edin., M.R.C.P.Lond., Senior Gynæcologist to Cardiff Infirmary; 12, Park place, Cardiff. *Council*, 1900.

1899 Macleod, William Aitken, M.B., C.M.Edin., 9, Pembridge villas, Bayswater, W.

1878*† Macnaughton-Jones, H., M.D., M.A.O. (Hon. Causâ), F.R.C.S.I. & Edin., 131, Harley street, Cavendish square, W. *Trans.* 1.

1894† McOscar, John, L.R.C.P.Lond., Bridge House, Spring gardens, Buxton.

1905 McQueen, Robert Martin, L.R.C.P.Lond., M.R.C.S., 1, Culford mansions, Cadogan square, S.W.

1899† Maguire, George J., M.B., B.Ch., Kew road, Richmond. *Trans.* 1.

1895† Maidlow, William Harvey, M.D.Durh., F.R.C.S.Eng. Ilminster, Somerset.

Elected

1884* Malcolm, John D., M.B., C.M., Surgeon to the Samaritan Free Hospital; 13, Portman street, W. *Council*, 1894-6. *Trans.* 3.

1871†*Malins, Edward, M.D., Consulting Obstetric Physician to the General Hospital, Professor of Midwifery in the University, Birmingham; 50, Newhall street, Birmingham. *Council*, 1881-3. *Vice-Pres.* 1884-6, 1901-2. *Pres.* 1903–4.

1903† Malins, Herbert, B.A.Oxon., M.B.Edin., 64, Sutherland avenue, W.

1868*†March, Henry Colley, M.D., Portisham, Dorchester. *Council*, 1890-2.

1887 Mark, Leonard P., M.D.Durh., 49, Oxford terrace, Hyde park, W.

1862*†Marriott, Robert Buchanan, M.R.C.S., Swaffham, Norfolk.

1887† Marsh, O. E. Bulwer, L.R.C.P.Ed., Parkdale, Clytha park, Newport, Monmouthshire.

1904 Marshall, James Cole, M.B.Lond., F.R.C.S.Eng., 36, Albion street, Hyde park, W.

1905† Marten, Robert Humphrey, M.B., B.C.Cant Adelaide.

1890† Martin, Christopher, M.B., C.M.Edin., F.R.C.S.Eng., Surgeon to the Birmingham and Midland Hospital for Women; 35, George road, Edgbaston, Birmingham. *Trans.* 1.

1905† Masters, Alfred Thomas, L.S.A., Northridge, Northiam, Sussex.

1899† Maxwell, John Preston, M.B.Lond., F.R.C.S., E.P. Mission, Engchhun, Amoy, China. *Trans.* 1.

1904 Maxwell, R. Drummond, M.D.Lond., 102, Oxford gardens, North Kensington, W.

1890 May, Chichester Gould, M.A., M.D.Cantab., Assistant Physician to the Grosvenor Hospital for Women and Children; 59, Cadogan place, S.W.

Elected

1884† Maynard, Edward Charles, L.R.C.P.Ed., 39, Wynnstay gardens, Kensington.

1886 Mennell, Zebulon, M.R.C.S., 1, Royal crescent, Notting hill, W.

1898 Menzies, Henry, M.B.Cantab., 4, Ashley gardens, S.W.

1882 Meredith, William Appleton, M.B., C.M., F.R.C.S.Eng., Surgeon to the Samaritan Free Hospital for Women and Children; 21, Manchester square, W. *Council*, 1886-8. *Vice-Pres.* 1891-3. *Trans.* 3.

1893† Michie, Harry, M.B.Aber., 27, Regent street, Nottingham.

1875*† Miles, Abijah J., M.D., Professor of Diseases of Women and Children in the Cincinnati College of Medicine, Cincinnati, Ohio, U.S.

1902 Milligan, Wyndham Anstruther, M.A., M.D.Aber., F.R.C.S.Edin., 68, Park street, Grosvenor square, W.

1876*† Millman, Thomas, M.D., 490, Huron street, Toronto, Ontario, Canada.

1880† Mills, Robert James, M.B., M.C., 35, Surrey street, Norwich.

1892† Milton, Herbert M. Nelson, M.R.C.S., Kasr-el-Aini Hospital, Cairo, Egypt.

1869*† Minns, Pembroke R. J. B., M.D., Thetford, Norfolk.

1903† Moore-Ede, William Edward, M.B., B.C.Cantab., 64, Jesmond road, Newcastle-on-Tyne.

1859† Moorhead, John, M.D., Surgeon to the Weymouth Infirmary and Dispensary; Weymouth, Dorset.

1895† Morison, Henry Bannermann, M.B.Durh., Lindley Lodge, Mottingham, Eltham, S.E.

1890 Morris, Charles Arthur, C.V.O., M.A., M.B., M.C. Cantab., F.R.C.S., Surgeon to the Grosvenor Hospital for Women and Children, 28, Chester square, S.W.

1883* Morris, Clarke Kelly, M.R.C.S., Gordon Lodge, Charlton road, Blackheath, S.E.

Elected

1893† Morse, Thomas Herbert, F.R.C.S., All Saints' green, Norwich. *Trans.* 1.

1896 Mugford, Sidney Arthur, L.R.C.P., 135, Kennington park road, S.E.

1893 Muir, Robert Douglas, M.D., The Limes, New Cross road, S.E.

1885 Murray, Charles Stormont, L.R.C.S. and L.M.Ed., 85, Gloucester place, Portman square, W.

1896† Nariman, R. T., M.D.Brux., Parsi Lying-in Hospital, Bombay.

1902† Nariman, Temulfi Bhicafi, L.M.&F.Bombay, Bombay, India.

1892† Nash, W. Gifford, F.R.C.S., Senior Surgeon to the Bedford County Hospital, Clavering House, De Parys avenue, Bedford.

1902† Newland, H. Simpson, M.B.Adel., F.R.C.S.Eng., 12, North terrace, Adelaide, South Australia.

1889† Newnham, William Harry Christopher, M.A., M.B.Cantab., Physician-Accoucheur to the Bristol General Hospital; Chandos Villa, Queen's road, Clifton, Bristol.

1893† Nichol, Frank Edward, M.A., M.B., B.C.Cantab., 1, Ethelbert crescent, Margate.

1873† Nicholson, Arthur, M.B.Lond., 30, Brunswick square, Brighton. *Council*, 1897-9.

1904† Nicholson, Harry Oliphant, M.D.Edin., 20, Manor place, Edinburgh.

1876* Nix, Edward James, M.D., 11, Weymouth street, W. *Council*, 1889-90.

1903 Nolan, William, L.R.C.P.& S.I., L.M.Dubl., 20, Talbot road, Bayswater, W.

1903† Nott, Arthur Holbrook, M.B.Durh., Major, Indian Medical Service, c/o Messrs. Grindlay & Co., 54, Parliament street, S.W.

Elected

1904† Odgers, Norman Blake, M.B., B.Ch.Oxon, F.R.C.S.Eng., 16, Castilian street, S. Giles street, Northampton.

1905 Orr, William Robert, M.D., Coolard lodge, East Finchley, N.

1899† Osborn, Francis Arthur, L.R.C.P.Lond., Ennismore House, Dover.

1877† Osterloh, Paul Rudolph, M.D. Leipzic, Physician for Diseases of Women, Diaconissen Hospital; Wienerstrasse 8, Dresden.

1892 Owen, Samuel Walshe, L.R.C.P.Lond., 10, Shepherd's Bush road, W.

1902 Oxley, Alfred James Rice, M.D.Dubl., 7, Courtfield road, S.W.

1889* Page, Harry Marmaduke, M.D.Brux., F.R.C.S., 14, Grenville place, S.W.

1877* Paramore, Richard, M.D., 2, Gordon square, W.C.

1867*†Parks, John, M.R.C.S., Bank House, Manchester road, Bury, Lancashire.

1887 Parsons, John Inglis, M.D.Durh., M.R.C.P., Physician to the Chelsea Hospital for Women, 3, Queen street, Mayfair, W. *Trans.* 2.

1904 Paterson, Herbert John, M.A., M.B., B.C.Cantab., F.R.C.S.Eng., 9, Upper Wimpole street, W.

1899 Paul, J. E., M.D., c/o Messrs. Parry and Co., 70, Gracechurch Street, E.C.

1902† Payne, Edward Marten, M.B., C.M., St. John's, Richmond terrace, Blackburn.

1882*†Peacey, William, M.D., Rydal Mount, St. John's road, Eastbourne.

1894 Peake, Solomon, M.R.C.S., 228, Goldhawk road, Shepherd's Bush, W.

1899† Peck, Francis Samuel, M.R.C.S.Eng., Major, Indian Medical Service; 6, Harington street, Calcutta.

1871* Pedler, George Henry, M.R.C.S., L.R.C.P., 6, Trevor terrace, Rutland gate, S.W. *Council*, 1897-8.

Elected

1880*†Pedley, Thomas Franklin, M.D., Rangoon, India. *Trans.* 1.

1898† Penny, Alfred Gervase, M.A., M.B., B.C.Cantab. Rahere house, Clayfield, Brisbane, Queensland.

1881† Perigal, Arthur, M.D., New Barnet, Herts. *Council*, 1892–3.

1879*†Pesikaka, Hormasji Dosabhai, 23, Hornby row, Bombay.

1894 Petty, David, M.B., C.M.Edin., 6, High road, South Tottenham, N.E.

1903† Philbrick, John Harold, M.B., B.Ch.Cantab. c/o Messrs. Grindlay & Co., Calcutta.

1879 Phillips, George Richard Turner, M.R.C.S., 28, Palace court, Bayswater hill, W. *Council*, 1891.

1882 Phillips, John, M.A., M.D.Cantab., F.R.C.P., Professor of Obstetric Medicine in King's College, and Obstetric Physician to King's College Hospital; 68, Brook street, W. *Council*, 1887-9, 1893. 1906. *Hon. Lib.* 1894-5. *Hon. Sec.* 1896-9. *Board Exam. Midwives*, 1892-4. *Vice-Pres.* 1900-3, 1907. *Chairman* 1905. *Trans.* 11.

1878* Philpot, Joseph Henry, M.D., 61, Chester square, S.W. *Council*, 1891.

1889† Pinhorn, Richard, L.R.C.P.Lond., 5, Cambridge terrace, Dover. *Council*, 1897-9.

1893 Playfair, Hugh James Moon, M.D.Lond., Assistant Physician, Hospital for Women and Children, Waterloo road; 7, Upper Brook street, Grosvenor square, W. *Council*, 1900.

1891* Pollock, William Rivers, M.D., F.R.C.P., Obstetric Physician to the Westminster Hospital, 56, Park street, Grosvenor square, W. *Council*, 1895-7, 1902-4. *Board Exam. Midwives*, 1898-9. *Trans.* 1.

1891† Pope, Henry Sharland, M.B., B.C.Cantab., Castle Bailey, Bridgwater.

1888* Popham, Robert Brooks, F.R.C.P.Edin., L.R.C.P.Lond., "Endyon," 130, Argyle road, West Ealing, W

Elected

1903† Potts, William Alexander, B.A.Cantab., M.D.Edin., 118, Hagley road, Birmingham.

1901 Powell, Llewellyn, M.B., B.C.Cantab., 58, New Cavendish street, W.

1886 Prangley, Henry John, L.R.C.P.Lond., Tudor House, 197, Anerley road, Anerley, S.E.

1880* Prickett, Marmaduke, M.A.Cantab., M.D., Physician to the Samaritan Hospital; 27, Oxford square, W. *Council*, 1892.

1895 Priestley, R. C., M.A., M.B.Cantab., 81, Linden gardens, Bayswater, W.

1905 Provis, Francis Lionel, F.R.C.S.Lond., 11, Brook street, Hanover square, W.

1898† Purslow, Charles Edwin, M.D., M.R.C.P.Lond., Honorary Obstetric Officer, Queen's Hospital, Birmingham; 192, Broad street, Birmingham.

1876*† Quirke, Joseph, M.R.C.P.Ed., The Oaklands, Hunter's road, Handsworth, Birmingham.

1878† Rawlings, John Adams, M.R.C.P.Ed., 14, Northampton place, Swansea.

1897† Rawlings, J. D., M.B.Lond., Rose Hill House, Dorking.

1870* Ray, Edward Reynolds, M.R.C.S., 15a, Upper Brook street, W. *Council*, 1902-4.

1894† Rayner, Herbert Edward, F.R.C.S., Diamond hill, Camberley, Surrey.

1899† Rayner, David Charles, F.R.C.S.Eng., 9, Lansdown place, Victoria square, Clifton, Bristol.

1860* Rayner, John, M.D., Swaledale House, Highbury quadrant, N.

1879 Read, Thomas Laurence, M.R.C.S., 11, Petersham terrace, Queen's gate, S.W. *Council*, 1892.

1905† Rees, Rhys Basil, L.S.A.Lond., Priory house, Queen's crescent, N.W.

Elected

1879† Reid, William Loudon, M.D., Professor of Midwifery and Diseases of Women and Children, Anderson's College; Physician to the Glasgow Maternity Hospital; 7, Royal crescent, Glasgow. *Council*, 1899-1901-2.

1893† Renshaw, Israel James Edward, F.R.C.S.Edin., Hulton street, Salford, Lancs.

1875*†Rey, Eugenio, M.D., 39, Via Cavour, Turin.

1890 Reynolds, John, M.D.Brux., 11, Brixton hill, S.W.

1905† Rice, George, M.D.Durh., 46, Friar gate, Derby.

1905 Richardson, Martin James, M.B., C.M.Edin., 47, Gloucester place, Portman square, W.

1872*†Richardson, William L., M.D., A.M., Professor of Obstetrics in Harvard University; Physician to the Boston Lying-in Hospital; 225, Commonwealth avenue, Boston, Massachusetts, U.S.

1889† Richmond, Thomas, L.R.C.P.Ed., 4, Burnbank gardens, Glasgow.

1871* Rigden, Walter, M.D. St. And., 16, Thurloe place, S.W. *Council*, 1882-3. *Trans.* 1.

1892 Roberts, Charles Hubert, M.D.Lond., F.R.C.S.Eng., M.R.C.P., Physician to Out-patients to Queen Charlotte's Hospital; Physician to Samaritan Free Hospital for Women; 21, Welbeck street, Cavendish square. *Council*, 1897-9, 1905-7. *Board Exam. Midwives*, 1901. *Trans.* 4.

O.F.*† Roberts, David Lloyd, M.D., F.R.C.P., F.R.S.Edin., Consulting Obstetric Physician to the Manchester Royal Infirmary; and Lecturer on Clinical Midwifery and the Diseases of Women in Owens College; 11, St. John street, Deansgate, Manchester. *Council*, 1868-70, 1880-2. *Vice-Pres.* 1871-2. *Board Exam. Midwives*, 1900-4. *Trans.* 5.

1867* Roberts, David W., M.D., 56, Manchester street, Manchester square, W. *Council*, 1905.

1890† Roberts, Hugh Jones, M.R.C.S., Llywenarth, Penygroes, R.S.O., N. Wales.

Elected

1893 Roberts, Thomas, L.S.A., 152, Westbourne Grove, Bayswater, W.

1874* Robertson, William Borwick, M.D., St. Anne's, Thurlow park road, West Dulwich, S.E.

1892 Robinson, George H. Drummond, M.D., B.S.Lond., Assistant Obstetric Physician, West London Hospital; 17, Seymour street, Portman square, W. *Council*, 1899-1900. *Board Exam. Midwives*, 1898-1900. *Trans.* 2.

1887 Robinson, Hugh Shapter, L.R.C.P.Ed., Talfourd House, 78, Peckham road, Camberwell, S.E.

1876†*Roe, John Withington, M.D., Ellesmere, Salop.

1874*†Roots, William Henry, M.R.C.S., Canbury House, Kingston-on-Thames.

1903† Rose, Alexander Macgregor, M.B., Ch.B., 15, Victoria street, Aberdeen, N.B.

1904 Rose, Thomas, L.R.C.P., 60, Bloomsbury street, W.C.

1893† Rosenau, Albert, M.D., Haus Rosenau (am Kurgarten), Kissingen, Bavaria. (*Winter*, Winter Palace, Monte Carlo.)

1884† Rossiter, George Frederick, M.B., Surgeon to the Weston-super-Mare Hospital; Cairo Lodge, Weston-super-Mare.

1884† Roughton, Walter, F.R.C.S., Cranborne House, New Barnet.

1882* Routh, Amand, M.D., B.S., F.R.C.P., Obstetric Physician and Lecturer on Midwifery at Charing Cross Hospital; 14a, Manchester square, W. *Council*, 1886-8, 1896-7, 1907. *Board Exam. Midwives*, 1893-5. *Hon. Lib.* 1898-9. *Hon. Sec.* 1900-3. *Vice-Pres.* 1904–6. *Trans.* 5.

O.F.* Routh, Charles Henry Felix, M.D., Consulting Physician to the Samaritan Free Hospital for Women and Children; 52, Montagu square, W. *Council*, 1859-61. *Vice-Pres.* 1874-6. *Trans.* 13.

1887*†Rowe, Arthur Walton, M.D.Dur., 1, Cecil street, Margate.

Elected

1886 Rushworth, Frank, M.D.Lond., 153, Finchley road, South Hampstead, N.W. *Council*, 1905.

1886† Rutherfoord, Henry Trotter, M.A., M.D.Cantab., Salisbury House, Taunton. *Council*, 1892-3. *Trans.* 1.

1866*†Saboia, Baron V. de, M.D., Director of the School of Medicine, Rio de Janeiro; 7, Rua dom Affonso, Petropolis, Rio Janeiro. *Trans.* 2.

1906 St.Johnston, Thomas Reginald, L.R.C.P., Lewisham Infirmary, S.E.

1864*†Salter, John H., M.R.C.S., D'Arcy House, Tolleshunt d'Arcy, Kelvedon, Essex. *Council*, 1894-6.

1868* Sams, John Sutton, M.R.C.S., St. Peter's Lodge, Eltham road, Lee, S.E. *Council*, 1892.

1886*†Sanderson, Robert, M.B.Oxon., 56, Brunswick square, Brighton.

1872 Sangster, Charles, M.R.C.S., 148, Lambeth road, S.E.

1903† Savage, Smallwood, M.B.Oxon., F.R.C.S.Eng., 133, Edmund street, Birmingham.

1894† Savory, Horace, M.A., M.B., B.C.Cantab., Assistant Physician to Bedford County Hospital, 2, Harpur place, Bedford. *Trans.* 1.

1890 Schacht, Frank Frederick, B.A., M.D.Cantab., 153, Cromwell road, S.W.

1902 Scharlieb, Mary Ann Dacomb, M.D.Lond., M.S., B.S., Obstetric Physician to the Royal Free Hospital, and Lecturer on Midwifery to the London School of Medicine for Women; 149, Harley street, W. *Council*, 1905–7.

1882 Serjeant, David Maurice, M.D., 27, Peckham road, S.E.

1905 Serjeant, Edith, L.R.C.S.&P.Edin., 27, Peckham road, Camberwell, S.E.

1905† Serjeant, Helen Mary, L.R.C.S.&P.Edin., Babies' Castle, Hawkhurst, Kent.

Elected

1875 Seton, David Elphinstone, M.D., 1, Emperor's gate, S.W. *Council*, 1884.

1896† Sharman, Mark, M.B., C.M.Glas., Rickmansworth.

1894† Sharpin, Archdale Lloyd, L.R.C.P.Lond., Kimbolton house, Bedford.

1891 Shaw-Mackenzie, John Alexander, M.D.Lond., 42, Green street, Park lane, W.

1906† Shaw, William Fletcher, M.D.Vict., St. Mary's Hospital, Manchester.

1900† Shepherd, Thomas William, L.R.C.S.Edin., Castle Hill House, Launceston.

1906 Shields, Ida Russell, M.B., B.S.Lond., Clapham Maternity Hospital, Clapham.

1902 Sikes, Alfred Walter, M.D., B.Sc.Lond., 40, Argyll road, Campden hill, W.

1902 Simson, Henry J. F., M.B., F.R.C.S.Ed., 36, Grosvenor street, W.

1888† Sinclair, Sir William Japp, M.D.Aber., Honorary Physician to the Southern Hospital for Women and Children and Maternity Hospital, Manchester; and Professor of Obstetrics and Gynæcology, Owens College, Manchester; Garvock House, Dudley road, Whalley Range, Manchester. *Council*, 1899-1902. *Vice-Pres.*, 1903-7. *Trans.* 1.

1881† Sloan, Archibald, M.B., 21, Elmbank street, Glasgow.

1876† Sloan, Samuel, M.D., C.M., 5, Somerset place, Sauchiehall street west, Glasgow.

1890† Sloman, Frederick, M.R.C.S., 18, Montpellier road, Brighton.

1903 Smith, Arthur Lionel Hall, L.R.C.P., M.R.C.S.Lond., 16, New Cavendish street, W.

1905* Smith, George Frederick Darwall, M.B.Cantab., B.Ch.Oxon., F.R.C.S.Eng., 30, Wimpole street, W.

1901 Smith, Guy Bellingham, M.B., B.S.Lond., F.R.C.S., 24, St. Thomas's street, S.E. *Trans.* 1.

Elected

1867* Smith, Heywood, M.D., 25, Welbeck street, Cavendish square, W. *Council*, 1872-5. *Board Exam. Midwives*, 1874-6. *Trans.* 6.

1875 Smith, Richard Thomas, M.D., Physician to the Hospital for Women, Soho square; 33, Wimpole street, W.

1886† Smith, Samuel Parsons, L.K.Q.C.P.I., Park Hyrst, Addiscombe road, Croydon.

1899*† Smyly, Sir William Josiah, M.D., F.R.C.P.I., 58, Merrion square, Dublin.

1868* Spaull, Barnard E., M.R.C.S., L.R.C.P., 1, Stanwick road, West Kensington, W.

1888* Spencer, Herbert R., M.D., B.S.Lond., F.R.C.P., Obstetric Physician and Lecturer on Obstetric Medicine to University College Hospital; 104, Harley street, W. *Council*, 1890-92. *Board Exam. Midwives*, 1896-7. *Hon. Sec.* 1898-1901. *Vice-Pres.*, 1902–4. *Editor*, 1903-7. *Pres.*, 1907. *Trans.* 11.

1882* Spooner, Frederick Henry, M.D., Maitland Lodge, Maitland place, Clapton, N.E.

1897 Stabb, Arthur Francis, M.B., B.C.Cantab., Assistant Obstetric Physician to St. George's Hospital, and Lecturer in Midwifery in the University of Cambridge; 132, Harley street, W. *Council*, 1899-1901. *Board Exam. Midwives*, 1903-5.

1877† Stephenson, William, M.D., Professor of Midwifery, University of Aberdeen; 3, Rubislaw terrace, Aberdeen. *Council*, 1881-3. *Vice-Pres.*, 1887-9. *Trans.* 2.

1894 Stevens, Thomas George, M.D., B.S.Lond., 8, Weymouth street, W. *Council*, 1902-3. *Board Exam. Midwives*, 1904-5. *Trans.* 2.

1884† Stevenson, Edmond Sinclair, Knt., F.R.C.S.Ed., Strathallan House, Rondebosch, Cape of Good Hope. *Trans.* 2.

1875*† Stewart, William, F.R.C.P.Ed., 26, Lethbridge road, Southport.

Elected

1884 Stivens, Bertram H. Lyne, M.D.Brux., 107, Park street, Grosvenor square, W.

1883 Stocks, Frederick, M.R.C.S., 421, Wandsworth road, S.W.

1894† Stott, William Atkinson, M.R.C.S., L.R.C.P.Lond., 2, Hillary place, Woodhouse lane, Leeds.

1866* Strange, William Heath, M.D., 2, Belsize avenue, Belsize park, N.W. *Council*, 1882-4.

1898† Sturmer, Arthur James, M.R.C.S., L.R.C.P., Lieut.-Col., c/o Messrs. Henry S. King & Co., 9, Pall Mall, S.W. *Trans.* 1.

1884 Sunderland, Septimus, M.D., M.R.C.P., Physician to the Royal Hospital for Children and Women; 11, Cavendish place, Cavendish square, W.

1904 Swaffield, Walter H., M.D., F.R.C.S.Ed., 39, Weymouth street, Portland place, W.

1896 Swan, Charles Atkin, M.B., B.Ch.Oxon., 3, Chester place, Hyde Park square, W.

1901 Swanton, James Hutchinson, M.D., M.Ch., 40, Harley street, W.

1893 Swayne, Francis Griffiths, M.A., M.B., B.C.Cantab., 140, Church road, Norwood, S.E.

1892† Swayne, Walter Carless, M.D.Lond., Obstetric Physician, Bristol Royal Infirmary; Professor of Midwifery in University College, Bristol; Mathon house, 56, St. Paul's road, Clifton. *Council*, 1903-6.

1905† Swete-Evans, William B., M.A., M.B., B.C., Malvern lodge, Southport.

1888* Sworn, Henry George, L.K.Q.C.P. & L.M., 5, Highbury crescent, N.

1883 Tait, Edward Sabine, M.D., 48, Highbury park, N. *Council*, 1892-4. *Trans.* 1.

1880*† Takaki, Kanaheiro, F.R.C.S., 10, Nishi-Konyachō, Kiōbashika, Tokio, Japan.

Elected

1891 Targett, James Henry, M.B., M.S.Lond., F.R.C.S., Obstetric Surgeon and Joint Lecturer on Midwifery to Guy's Hospital, 19, Upper Wimpole street, W. *Council*, 1895. 1906. *Board Exam. Midwives*, 1900-2.

1892* Tate, Walter William Hunt, M.D.Lond., Obstetric Physician to, and Lecturer on Midwifery and the Diseases of Women at, St. Thomas's Hospital; 32, Queen Anne street, Cavendish square, W. *Council*, 1895-7. *Board Exam. Midwives*, 1898-9. *Trans.* 2.

1900 Taylor, Frank Edward, M.A., M.B., F.R.C.S., Pathologist to Chelsea Hospital for Women, 11, Bentinck street, Cavendish square, W.

1890*†Taylor, John William, F.R.C.S., Surgeon to the Birmingham and Midland Hospital for Women; Professor of Gynæcology, Birmingham University; 22, Newhall street, Birmingham. *Council*, 1900-2. *Trans.* 4.

1892 Taylor, William Bramley, M.R.C.S., 145, Denmark hill, S.E.

1894† Tench, Montague, M.D.Brux., L.R.C.P.Lond., Great Dunmow, Essex.

1890† Thomas, Benjamin Wilfred, L.R.C.P.Lond., Welwyn.

1887† Thomas, William Edmund, L.R.C.P.Ed., Ashfield, Bridgend, Glamorganshire.

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1866*† Walker, Thomas James, M.D., Surgeon to the General Infirmary, Peterborough; 33, Westgate, Peterborough. *Council*, 1878-80.

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1879*†WALTER, WILLIAM, M.A., M.D., Surgeon to St. Mary's Hospital, Manchester; 20, St. John street, Manchester.

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1898† WATSON, C. R., M.D.Brux., 5, Mount Ephraim road, Tunbridge Wells.

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1898† Wilson, Claude, M.D.Edin., Belmont, Church road, Tunbridge Wells.

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1888*†Wyatt-Smith, Frank, M.B., B.C.Cantab., British Hospital, Buenos Ayres.

1882*†Young, Charles Grove, M.D., Berbice, Upper Sea road, Bexhill, Sussex.

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THE SOCIETY is not as a body responsible for the facts and opinions which are advanced in the following papers and communications read, nor for those contained in the abstracts of the discussions which have occurred at the meetings during the Session.

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AGNES HANNAM,
Secretary and Librarian.

January 3rd, 1906.

W. R. Dakin, M.D., President, in the Chair.

Present—30 Fellows.

The following gentlemen were elected Fellows of the Society:

Lewis Augustus Clutterbuck, M.B.Durh., M.R.C.P. Lond.; Hugh Stevenson Davidson, M.B., Ch.B.Edin. (Melrose, N.B.).

ON A CASE OF PYELONEPHRITIS OF PREGNANCY.

By W. Anstruther Milligan, M.B.Aberd., F.R.C.S.Edin.

Pyelonephritis commencing during pregnancy has not, so far as I can gather, been brought before the notice of this Society, and, as I have recently been able to study such a case, I have thought it well to make it the subject of a short communication.

Whilst I was Registrar to the Hospital for Women, Soho Square, a patient with the following history was admitted under the care of Mr. Drew, to whose kindness I am indebted for permission to make use of it:—

Mrs. Y—, aged 23, was admitted to hospital on January

9th, 1904. She had been married two years, and had had two children, the later of whom was born three weeks previous to her admission. The history she gave was that, until six weeks before her confinement, she was, so far as she knew, perfectly well. About this time she began to suffer from indefinite pains in her left loin, radiating over the abdomen and into the back. About the same time she noted that her urine was thick, and that it sometimes had a disagreeable smell. She felt ill, and was more or less confined to bed. She was under medical supervision, and was evidently feverish, as she says that her temperature was regularly taken. Nothing definite was found to account for her symptoms. The confinement, which took place at full time, was perfectly straightforward.

Subsequently, the symptoms not abating, she came to hospital for advice. On admission, the patient had a temperature of 101° F., and looked very ill. Examination revealed a large, dull, immobile swelling in the left kidney region, extending back to the spinal muscles and down as far as the brim of the pelvis. Faint, deep fluctuation was detected, and pressure over the swelling caused pain. The urine was acid, had a sp. gr. of 1015, and contained a large amount of pus. Pelvic examination revealed nothing abnormal.

Mr. Drew explored retroperitoneally, and evacuated a large amount of pus from the much distended pelvis and ureter of the left kidney. No stone or caseating matter was found. The kidney was slightly disorganised. Drainage was employed, and the patient gradually recovered, and was discharged. Her urine was acid all through, the pus gradually disappearing. She was seen again in October, 1905, and reported that, since leaving the hospital in March, 1904, she had been perfectly well and had gained flesh. She had had another child, nine months ago, but no return of her previous trouble.

Such, then, is the history of the case—a woman attacked in her seventh month of pregnancy with pain in the left side and the back; thick urine was passed, and there was

a general feeling of malaise. The symptoms were not relieved till the operation took place, when a pyonephrosis of the left side was evacuated and drained.

The sequence of events in this case was probably due to the fact that a pyelonephritis was set up in consequence of (*a*) some pressure on the ureter, rendering the kidney and its pelvis a "point of least resistance," and (*b*) the entrance of some pyogenic organism, the pyelonephritis subsequently becoming complicated by a pyonephrosis.

It may be that originally there was a hydronephrosis, caused by pressure on the ureter, and that this hydronephrosis subsequently became infected. The history points to the first as being the more likely sequence of events. That pyelonephritis can commence during pregnancy, I mean that it may begin as a direct result of the patient's being pregnant, I do not think anyone will doubt.

In order to induce this pyelonephritis we must have (1) a predisposing and (2) an exciting cause.

(1) The predisposing cause is pressure exerted on the ureter in some part of its course, and consequent production of stagnation of the urine and dilatation of the parts above the point compressed. The most widely accepted view is that the ureter is nipped between the gravid uterus and the pelvic brim—a theory which has received support on account of the fact that the trouble is in a very large proportion of cases on the right side, to which side there is said to be a normal inclination of the uterus, aggravated when it becomes pregnant. Another theory recently advanced by Cathala (23) is that the constriction is brought about by the traction exerted on the ureter by the inferior uterine segment. With this latter theory I am more inclined to agree, as it seems to me to explain better—(1) those cases which commence early in pregnancy, before it is possible for the uterus to exert any pressure on the ureter by nipping it against the pelvic brim; (2) those cases commencing after labour, when the uterus is supposed to sink down into the pelvis and drag on the ureter. In the 'Lancet' of September 9th, 1905, a

case commencing after labour is recorded by Chatelain (31). In addition to this, as predisposing causes, we have the congested state of the organs and the overwork, conditions common to pregnancy and favourable to the growth of organisms should they gain admittance.

(2) The exciting cause is some pathogenic organism gaining entrance to the kidney by means of the blood- or lymph-stream. The chief offender seems to be the colon bacillus, the virulence of which is no doubt attenuated on account of the constipation so common amongst pregnant women. In the case recorded above I am sorry I cannot vouch for the organism, as no bacteriological examination was made.

The infection may be "ascending," in which case the history is altogether different, and usually the offender is the streptococcus or staphylococcus.

The recorded cases show that pyelonephritis is usually unilateral and right-sided, a point touched on before. It seems also to be more frequent in primiparæ. Some may object that, as the pyelonephritis of pregnancy is a rare occurrence, there must be some particular, rare combination of events to produce it. In reply to this I ask, Is pyelonephritis as rare as we think? May not a good many of the cases of so-called albuminuria of pregnancy be in reality cases of pyelonephritis? This can only be answered by a systematic examination of the urine for pus in all cases where we find albuminuria. The insidious onset of such cases may often be misleading as to diagnosis. Then, again, the duration may only be a matter of ten to twelve days, perhaps less. Symptoms also may be intermittent, due to a temporary lessening of the pressure on the ureter. The character of the urine varies according to the stage of the illness at which the examination takes place. It is usually acid, and contains pus and epithelial *débris*. Bacteriological examination will reveal the presence of the offending micro-organism. It is possible that those who have had previous kidney trouble will be more liable to suffer from the pyelonephritis of pregnancy

than those who have perfectly healthy kidneys, but of this point I have no definite proof.

The description of the pyelonephritis of pregnancy belongs to recent years; our knowledge of it comes very largely from French authors. The first mention of it is made by Rayer (1) in 1841, but the first real description was not given till about 1892, when Reblaub (2) read a paper entitled "Des Infections des Reins et du Bassinet Consécutives à la Compression de l'Urétère par l'Utérus Gravide." Since then we have periodical literature appearing on the subject, a full list of which I append to this paper. This I have gone through, and will very shortly recount the more important of the various conclusions.

Bonneau (3), in 1893, published his researches, and came to the conclusion that compression of the ureters is frequent during the course of pregnancy, and that this compression places the kidney and upper part of the ureter in imminent danger of infection. The infection, he says, comes from the intestine through the blood-stream.

Weill (11), in 1898–99, says the infection may (1) enter through the blood, or (2) enter through the lymphatics, or (3) may be ascending, the kidney being attacked as the point of least resistance.

Reid (10), in 1899, speaks of the disease as rare. He mentions two causative factors: (1) ureteral compression, (2) infection. Compression may, he thinks, be easily explained by the close relation existing between the ureters and the uterus on the one hand and the pelvic brim on the other. He quotes Cruveilhier as pointing out that in his experience all women who died during pregnancy or soon after delivery had dilated ureters. That the right kidney is the one usually attacked he considers to be due, as pointed out by Vinay, to the normal inclination of the uterus to the right, intensified in pregnancy. He regards the infection as due to the colon bacillus.

Brédier (16), in 1901–02, calls special attention to the

fact that cases diagnosed as albuminuria may possibly be cases of pyelonephritis.

Balatre (17), in 1903, writes that pyelonephritis usually commences about the fifth month, and is caused by retention due to compression of the ureter and the entrance of an infective organism ascending or descending.

In more recent times the most important work on this subject is found in papers by Cathala, Opitz, and Ziegelmann.

Cathala (23), writing in 1904, comes to the conclusion that there are two great causes—(1) *predisposing*: weakness of the kidney in the matter of resistance, compression which he attributes to the tension produced on the ureter by the inferior segment of the uterus; (2) *determining*: entrance of colon bacillus through the blood-stream into the kidney. He recognises two stages in the clinical picture—(*a*) a pre-suppurative, and (*b*) a suppurative.

Opitz (30), in 1905 ('Zeits. für Geburts. und Gynäkol.,' vol. lv), writes a full account of pyelonephritis of pregnancy.* He bases his paper on seventy-nine cases. Pregnancy tends to bring about pyelitis (cysto-ureteropyelo-nephritis); there are three modes of infection—(1) an ascending from the bladder; (2) from the urine—*i. e.* really from the blood; (3) from the lymph-channels, which last may account for some cases occurring during the puerperium. One or both ureters may be dilated, usually the right as it lies further from the mid-line and so is less protected. The urethra always contains micro-organisms; it is likely that these get into the bladder during pregnancy owing to congestion and occasional retention. The valve-like communication between the bladder and the ureter usually protects the latter from ascending infection. Urine is squirted into the bladder intermittently and the valve closes. Dilatation of the ureter occurs and a column of stagnant urine fills the lower part of the ureter, and thus is established free

* See abstract by Dr. Andrews in the 'Journal of Obstetrics' for November, 1905, vol. viii, No. 5, p. 327.

communication between bladder and ureter. Pressure on the ureter from flat pelvis is less likely to occur. Kinking of the ureter, due to a low position of the kidney, may be a cause of dilatation during pregnancy. (Kelly.) Pressure, says Opitz, is exerted on the ureter as it crosses the brim. If pressure were exerted by the lowest part of the fœtus, pyelonephritis would be most common during the last two months. This is not so; the symptoms commence at the fifth month.

Ziegelmann (29), in 1905, writes that compression of the ureters between the enlarged uterus and the pelvic brim, coupled with the entrance of an organism, either ascending or descending, is the cause of pyelonephritis. More usually the infection is a descending one, the organism, the colon bacillus, being brought to the kidney by means of the blood-stream. He points out that the inflamed ureter may be felt *per vaginam*.

Such are the opinions I have been able to abstract from the papers to which I have had access, and they all agree in the main. The point of interest lies in the question as to where and how the ureter becomes compressed, for compression seems to be an essential element, rendering the kidney and the pelvis capable of being attacked by some pathogenic organism. I cannot suggest any other theory than those mentioned above, and yet at the same time we still seem to need something more definite to account for the compression. There are many other interesting points that could be raised, as, *e. g.*, treatment, prognosis to mother and child, relation to eclampsia, and the question of the treatment of one suffering from pyelonephritis during the lying-in period, but time will not permit.

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Dr. Drummond Maxwell remarked that any record of this complication of pregnancy was interesting when one considered how scanty were the reports of (proved) cases in English literature. Already the bibliography of the subject was an extensive one, but in the original list appended to the paper he noticed the absence of Dr. Matthews Duncan's name. He (Dr. Matthews Duncan) was, however, perfectly familiar with this complication of pregnancy, and though he never devoted an actual clinical lecture to the subject, still, the following extract, taken from his lecture on "Retention of Urine," would clearly establish his right to be included as one of its earliest observers. Dr. Matthews Duncan wrote as follows: "Pregnancy has long been known to occasionally cause obstruction of the ureters. This obstruction is most likely to affect the right ureter, and the reasons for this are the two following: right lateral obliquity of the womb, and the ureter is pushed forwards favourably for pressure on the right side, which it is not on the left." As regards the methods of clinical investigation of the case recorded to-night, as the author of the paper himself confessed, they were extremely scanty and were in his (Dr. Maxwell's) opinion too indefinite to permit of the case being included in the list of proved cases of this affection. There were three definite clinical means of investigating this condition: (1) intra-vesical separation of the urine, to establish the unilateral nature of the affection; (2) bacteriological examination of the purulent deposit, to determine the nature of the infective agent; (3) the information to be gained from surgical exploration of the affected kidney, should such a step be deemed necessary. Now, in the case recorded to-night there was only this last source of information, and it left one completely in the dark both as regards the infective agent and whether it followed an ascending or a descending route, whereas we knew that in the classical type of this complication the infective agent was the colon bacillus and it reached the kidney by a descending route. The most interesting feature of the case reported to-night lay undoubtedly in the left-sided nature of the attack; it would be interesting to know if Dr. Milligan could advance any anatomical explanation for this very rare anomaly. Dr. Maxwell had only been able to find two records of left-sided

cases, both in the French literature, and one of them had occurred in connection with that rare type of contracted pelvis the "obliquely contracted," the ureter being affected on the side of the shorter sacro-cotyloid diameter. The following case, on which his (Dr. Maxwell's) experience of this class of complication was based, was one that had been admitted to Queen Charlotte's Hospital two years ago under the care of Dr. Gow, who had kindly allowed him, when resident medical officer there, to investigate fully and record it. The patient was a young primigravida, aged 25, who had been sent to the hospital at the fourth month of pregnancy with the diagnosis of "premonitory symptoms of eclampsia," based on the existence of severe vomiting and albuminuria. Examination of her urine at once showed that such albumen as had been detected was clearly due to pus which roughly in the test-tube gave a volume of about one fifth. The patient had no pyrexia, but complained of occasional pain in the left side; examination of the left loin failed to detect a renal enlargement, but was accompanied by severe pain on deep palpation. Under at first a milk and later a mixed diet, patient's gastric symptoms were completely relieved, and she returned home after a week's observation in hospital. Approximately at the twenty-sixth week of her pregnancy she came back to hospital, with a return of her former symptoms. She was markedly malnourished, had an anxious expression, and vomiting had again become intractable. There was still neither pyrexia nor definite signs of hepato-toxæmia, but a gradually increasing frequency of her pulse-rate to an average of 110 per minute justified one in no longer pursuing an expectant line of treatment. During the fortnight that she was under observation in hospital for a second time he had the opportunity of practising on three occasions, prior to induction of labour, intra-vesical separation of her urine by means of Bar and Luys's apparatus. No difficulty was experienced, though some writers have criticised the use of the instrument in the later months of pregnancy. On the first occasion the bacteriological examination was rendered almost valueless by reason of the preliminary use of boracic acid lotion to wash out the bladder, and this antiseptic had prevented the secondary growth of the organism in culture media; but on three subsequent occasions, twice before induction and once after, the bacteriological findings were identical and proved the presence of *Staphylococcus albus pyogenes*. The delivery of the patient was not followed by that improvement and cessation of symptoms which seemed to be almost universal in these cases; in addition one was now able to detect a fluctuating renal swelling in the left loin, and the patient began to suffer from a moderately severe grade of pyrexia. There was no alternation in the amount of pus in the urine. The patient was then transferred to the London Hospital, under the care of Mr. Mansell Moullin. Mr.

Moullin was familiar with this complication of pregnancy, and he, too, was inclined to regard it as a typical case of pyelonephritis of pregnancy. One week later he operated on the patient, and opened a large pyonephritic abscess from which a considerable amount of friable calculus was removed. This unexpected termination had prevented the case from being laid before this Society as a case of pyelonephritis of pregnancy, and also, fortunately, its erroneous classification. He (Dr. Maxwell) had thought it important to mention this contrast case, for there was little doubt that, while the condition was considerably less rare than had been thought, still, in the absence of the clinical investigation, he suggested its recognition could not be other than mere surmise.

SECTIONS OF AN ADENOMYOMATOUS POLYPUS OF THE CERVIX.

Shown by Dr. Frank E. Taylor.

The Fellows of this Society have had little opportunity of discussing that variety of neoplasm known as adenomyoma of the uterus. Hitherto only three specimens of this condition have been exhibited at its meetings, two by Dr. Tate on April 6th, 1904, and one by myself, on May 4th, 1904. In these cases, as in all the recorded ones with which I am acquainted, the condition presented itself as a diffuse growth in the walls of the uterus, and made itself clinically evident by the production of profuse uterine hæmorrhage. To this condition Cullen has applied the name "adenomyoma uteri diffusum benignum." I am not aware that polypoid growths either of the uterine body or cervix have yet been observed which show the structure of an adenomyoma. I present to the Society to-night the histological sections of a polypus springing from the cervix uteri which show such a structure in most characteristic fashion. In conformity with Cullen's nomenclature such a growth may be termed "adenomyoma uteri polyposum benignum."

This tumour is of interest in its bearing upon the question of the pathogenesis of adenomyoma of the

uterus. The most widely accepted view is that of von Recklinghausen, namely that the great majority of these growths arise from remnants of the Wolffian bodies which have been included within the uterine musculature. The cases I have recorded do not support this view, but show that many of them are Müllerian in origin, taking their origin in the endometrium and its subjacent musculature, which Sir John Williams has shown to be the muscularis mucosæ of the endometrium. According to this view the constituents of an adenomyoma of the uterus arise as follows: From the glandular structures of the endometrium are derived its epithelial elements, arranged in glandular fashion; from the stroma of the endometrium is derived the richly cellular lymphadenoid connective tissue which surrounds the glands, whilst the muscular elements are derived from that portion of the myometrium which constitutes the muscularis mucosæ.

The adenomyomatous polypus now submitted supports this view of their origin, springing as it did from the cervix, distant from the seat of all Wolffian relics, whilst the body of the uterus and the cervix itself were free from growths.

The history of the case is as follows:

M. A. P—, a widow, a multipara, aged 53, was admitted into Chelsea Hospital for Women under the care of Dr. W. H. Fenton on October 24th, 1905, complaining of "bleeding from the womb," which commenced five years ago. Prior to this menstruation had been quite regular, both as regards duration and quantity. Five years ago an irregular hæmorrhagic discharge commenced: it has gradually become more profuse, so that the patient has quite lost count of her menstrual periods. She has been free from pain throughout.

Abdominal examination revealed nothing abnormal. Vaginally, a large pedunculated polypus of the cervix was found. On October 27th ether was administered, and Dr. Fenton twisted off the polypus, hæmorrhage being controlled by packing the cervix with gauze. The patient

was discharged from hospital on November 6th, and there has been no recurrence of the hæmorrhage.

The removed polypus was ovoid in shape and slightly flattened from side to side. It was about the size and shape of a pigeon's egg, and from the narrower end sprang a very short pedicle about the thickness of a goose-quill. It was pinkish-grey in colour and moderately firm in consistence.

Microscopically, it shows the characters of an adenomyoma—masses of glandular tissue surrounded by a richly cytogenic lymphadenoid connective tissue. The periphery of the polypus consists of endometrium-like tissue infiltrated with small round cells, and the lining epithelium is for the most part missing. Where traces of it exist, they show the structure of multiple squamous epithelium, the result of metaplasia of the simple columnar epithelium, as a result of irritation due to the polypus projecting into the vagina.

Dr. Amand Routh had seen several of such polypi growing from high up in the cervical canal, where muscular and glandular tissues intermingle.

Dr. Herbert Spencer said that these adeniferous fibroid polypi were not at all uncommon, and he thought it a mistake to call them adenomyomata. Uterine myomata were known to contain glands in many cases, though usually the glands were in small numbers. He doubted whether the term "adenomyoma" was properly applied even to those curious diffuse growths with great overgrowth of the glands, and thought that the condition was probably a hypertrophy of the mucosa in many of the cases; this class of so-called adenomyoma was quite different from the adenomyomata described by von Recklinghausen, which were probably derived from fœtal relics.

Dr. Taylor, in reply, agreed with Dr. Amand Routh that the condition was not a very uncommon one, but he doubted whether attention had hitherto been directed towards it. He used the term "benignum" partly in accordance with Cullen's nomenclature and partly because the histological characters of the tumour were characteristic of a benign growth and presented none of the appearances of malignancy. In reply to Dr. Spencer, he believed that the nomenclature of a tumour from its microscopical appearances depended largely upon the interpretation of those appearances. Believing as he (Dr. Taylor) did

that the tumour consisted partly of a new growth of glandular tissue and partly of a new growth of unstriped muscular tissue, and that these two elements were mixed together so as to form a single tumour, he considered that the name "adenomyoma" was aptly applied to this condition, and was accurately descriptive of it.

UTERUS AND ILIAC GLANDS REMOVED BY ABDOMINAL HYSTERECTOMY FOR CANCER OF CERVIX.

Shown by Dr. Vincent Dickinson.

This specimen consists of a uterus affected with cancer of the cervix, removed by abdominal section, together with the iliac glands. Microscopic slides are also shown, with sections both of the growth in the cervix and in the glands of the right side.

The patient, a native of Cassino, was admitted into the Italian Hospital under my care on October 4th, 1905, and gave the following history: Age 48, married, with seven children, the last nine years ago; one abortion, at four months, eighteen years ago. With the exception of an attack of dysuria, four years after the birth of the last child, she was in good health till July, 1904, when the menstrual periods became more frequent and copious, until the loss was eventually almost continuous. The patient was stout, but stated that she had lost flesh. On vaginal examination the cervix was much enlarged, the canal patulous and disclosing a hard, ulcerated, bleeding growth; there was no extension to the exterior surface of the vaginal portion, the whole uterus was freely mobile, and no thickening could be felt in the broad ligaments. Nothing was discoverable *per abdomen* or *per rectum*. On October 7th, 1905, my colleague, Mr. Lenthal Cheatle, operated by the abdominal route, following the method of Wertheim. The posterior layer of the broad ligament was first divided on either side, and the ureters exposed as far as their

entrance into the parametrium. The bladder was then separated from the uterus, and the infundibulo-pelvic, the broad, and round ligaments tied and divided on both sides. The uterine arteries were next ligatured, and the portions of the ureters leading to the bladder were isolated with the fingers. The posterior layer of the peritoneum was then divided, and the rectum separated from the vagina, which last being cut across, the uterus and appendages were removed. The excision being carried upwards to expose the great iliac vessels, masses of enlarged lymphatic glands came into view and were removed; those on the right side were larger than those on the left. The resulting cavity was filled with iodoform gauze, the ends of which protruded from the vagina, the peritoneum was sewn over this gauze, and the abdominal wound closed in the usual way. No drainage-tube was used.

The interest of the case is that at first sight and from the clinical aspect it appeared an ideal one for vaginal hysterectomy, it having been seen fairly early, the uterus being freely mobile, and the disease not having spread either towards the vagina or into the broad ligaments, as the specimen very well shows. Probably most operators would have chosen the vaginal route. But the specimen also shows that in this case the disease could not have been efficiently removed by the vaginal route, for the lymphatic glands which had been removed in the present operation would have been inaccessible. As it is not possible to diagnose by palpation the presence or absence of diseased iliac glands prior to operation, the question arises whether it is *ever* possible to remove cancer efficiently by any operation conducted through the vagina, and whether the only safe course is a complete operation such as that described by Wertheim.

The microscope specimens show the cervix and the iliac lymphatic glands on the right side to be the seat of epithelioma; the glands on the left side, though enlarged, did not contain any malignant growth.

The patient did well, and is now convalescent.

Dr. Herbert Spencer expressed a hope that Dr. Dickinson would publish the subsequent history of the case he had reported to-night after an interval of five years, or sooner if recurrence should take place, which, as far as our present knowledge went, was the probable outcome in all cases in which the iliac glands were affected with cancer.

Dr. Cuthbert Lockyer asked if Wertheim's vaginal clamps had been used in the operation, and called attention to the fact that the point upon which Wertheim laid the greatest possible stress, viz. free removal of the vagina, had not been adhered to. The specimen showed the cancerous cervical growth extending beyond the cut edge of the vaginal wall, and this in Dr. Lockyer's opinion incurred the risk of local recurrence. The essential feature of Wertheim's operation was the dissection of a sufficient length of the vagina to allow two broad clamps to be applied beyond the growth, so that after the vagina was cut through beyond the clamps the growth came away safely concealed in the upper clamped portion of the vagina. The cancerous cervix ought never to be seen during the operation. As regards the presence of cancerous glands in this case, it had been pointed out by Wertheim, Baisch, and others that these were the worst cases in point of prognosis. The site of election for cancerous glands was the fossa ovarica or the bifurcation of the common into the external and internal iliac arteries. In this situation it was impossible by clinical means to discover glandular enlargement before operation, but Wertheim himself does not advance this as an argument against the abdominal operation. Baisch said ('Archiv für Gynäk.,' Bd. lxxv, Heft 2) that we must reckon on one-tenth to one-fifth of cases as having cancerous glands even when the parametric tissues were free from disease.

TWO CASES OF CALCIFIED UTERINE FIBROIDS IN ELDERLY WOMEN REMOVED BY ABDOMINAL SECTION.

By Dr. W. S. A. Griffith.

Case 1.—Mrs. B—, aged 73, was seen with Mr. Reginald Jowers and Mr. Alfred Scott at Brighton on March 10th, 1905. The general health had always been good. In January Mr. Jowers operated for strangulated hernia,

the operation being followed by troublesome bronchitis and retention of urine, with increasingly severe pain in the region of the bladder; this for some reason was most frequently severe about 3 p.m. in the afternoon, and was only partially relieved by a half-grain dose of morphia. A distinguished surgeon had two days previously to my visit given the opinion that the case was one of malignant disease, and therefore strongly advised against operation. At my visit the patient was evidently ill and in great distress; there was evident cystitis, the urine containing pus.

Filling the upper half of the pelvis was a hard nodular and very tender mass, impacted but not absolutely fixed. The senile uterus was freely movable in front of it; the rectum was firmly compressed by it but was free from disease. We formed the opinion that the tumour was a calcified fibroid and advised an exploratory operation. On March 12th we operated and found the tumour to consist of several calcified fibroids attached to the posterior surface of the uterus. The uterus was very soft and fragile, and was a good deal torn as the result of the traction necessary to raise the mass out of the pelvis. The hæmorrhage from this source was easily controlled by fine sutures. The peritoneum was left filled with warm water. Her convalescence was uneventful; her pain ceased from the time of the operation; the wound had completely healed on the tenth day when I removed the sutures.

Case 2.—Two days after the operation on the first case I operated on another similar one, a patient of Mr. Bott's of Brentford, aged 69; previous health always good. For the past two or three months she suffered from increasing pelvic pain, with pressure on the rectum and difficult micturition. These were her only symptoms. We found a hard nodular lump in the pelvis which was in the enlarged body of the uterus and had the characters of a calcified fibroid. We agreed that she should be

given a few weeks of rest and ascertain what relief this would give. After three weeks Mr. Bott wrote to say his patient was but little relieved and desired to have the tumour removed. This we did on February 14th. Supra-vaginal hysterectomy was simple enough, the only important detail being the necessity for gentle tightening of sutures and ligatures to avoid tearing the soft senile tissues. Her convalescence was uninterrupted; she was able to leave the Home in the fourth week, quite relieved of her pain, and Mr. Bott wrote on October 20th that she has been quite well since the operation and has had no pain.

These two cases deserve to be recorded as examples of unusual trouble arising late in life from calcified fibroids. In both cases the suffering was sufficient to compel each patient to beg for relief from operation. The specimens show the ordinary characters of senile degeneration, and there is no evidence of malignant disease.

SPECIMEN OF TUBAL MOLE ASSOCIATED WITH (?) SARCOMA OF THE OVARY OF THE SAME SIDE.

Shown by Dr. Galabin.

The patient was a married woman, aged 46. She had had five children, the last two years ago. Her illness began with amenorrhœa, lasting two months. This was followed by a profuse hæmorrhage, with pains, lasting for two weeks, and she was supposed then to have had a miscarriage. After this, pain continued, with a reddish or coffee-coloured discharge, for a month. Then she had what appeared to be a moderate period, followed by a continuance of a brown discharge, for another week up to date of examination.

The uterus was found enlarged, the sound passing four

and a half inches, and a large hard mass was felt bimanually coming down low in the left fornix. It was thought to be probably an uterine fibroid. What afterwards proved to be the dilated tube was not distinguished separately, the abdominal wall being very thick with fat.

At the operation the tumour was found to be a solid one of the left ovary. Above it lay the left tube, dilated by a tubal mole, and unruptured. There was a small central cavity and an embryo about one third of an inch long. Thinking the tumour to be probably malignant, Dr. Galabin removed the body of the uterus, with both ovaries and tubes. The patient made a good recovery.

The tumour of the left ovary was mainly solid, but the cut section showed a few very small cysts. A milky juice could be scraped from the fresh section. A microscopic slide was shown, and according to a report received from the Clinical Research Association the structure was regarded as spindle-celled sarcoma.

No corpus luteum was present, unless a corpus luteum was represented by a nodule projecting above the surface of the right ovary, and consisting of hard, white, fibrous tissue. In any case Dr. Galabin thought that there was probably transperitoneal migration of the ovum, in view of the condition of the left ovary.

As recent evidence had shown the connection of the corpus luteum with the life of the ovum in the early months of pregnancy, and the development of the syncytium, Dr. Galabin thought that the absence of a corpus luteum might account for the mole having reached a larger size than usual without rupture, the diameter being two and a half inches after shrinking, and for the wall of the tube appearing hypertrophied and not eroded, being in parts more than a quarter of an inch in thickness.

The specimen was referred to the Pathology Committee.

Dr. Fairbairn said that the solid tumour of the ovary in Dr. Galabin's specimen corresponded so closely to the character of the series he (Dr. Fairbairn) had described as fibromata in a paper read at this Society that it ought also to be classed as a

fibroma and not as a sarcoma. First of all as to its naked-eye characters. The section showed it to be a hard fibrous growth, encapsuled in the ovary, from which it could be enucleated just as a uterine fibroid from the uterine wall. Near the ovarian ligament was seen an easily recognisable portion of ovarian tissue, whilst the rest of the tumour was covered by a thinned-out capsule of tunica albuginea, which also could be stripped off the growth. The section under the microscope had the same characteristics as those he had investigated, and he felt sure that if it were stained by van Gieson's stain it would turn out to be fibromyomatous in structure. If what he had said was true, and there was ovum-bearing tissue on the outside of the tumour, there would be no need to assume that trans-peritoneal migration of the ovum had taken place. The specimen ought to be referred to the Pathology Committee to see what they thought of the tumour.

Dr. Galabin (in reply) said that he was inclined to agree with Mr. Targett's report on account of the numerous large nuclei seen in the sections, round, oval, or elongated, and apparently proliferative.

A CASE OF FIBRO-MYOMA OF THE UTERUS UNDERGOING SARCOMATOUS CHANGE.

(With Plates I, II, III.)

By W. S. A. Griffith, M.D., and
Herbert Williamson, M.B.

(Received November 25th, 1905.)

(*Abstract.*)

The case is recorded of a patient fifty-six years of age, who was admitted into St. Bartholomew's Hospital suffering from sarcoma of the uterus. Six years previously she had attended as an out-patient at the same hospital on account of an abdominal tumour, which was diagnosed as a fibro-myoma of the uterus.

Post mortem the uterus was found to contain several fibro-myomata, in one of which was growing a sarcoma. Secondary deposits were present in both lungs.

The authors discuss the various conditions under which sarcoma and fibro-myoma may co-exist in the same uterus.

They point out the difficulty of arriving at a definite conclusion as to the frequency of the association.

They find no difficulty in accepting the doctrine that a tumour originally innocent may become malignant, and conclude that the specimen shown is an example of a fibro-myoma undergoing sarcomatous change.

G. F—, aged 56, was admitted into St. Bartholomew's Hospital, under the care of Dr. Herringham, on June 27th, 1905, suffering from abdominal pain and diarrhœa.

The patient was married, but had been a widow for nineteen years. She had never been pregnant. Very

little is known of her past history, except that six years ago she attended the hospital as an out-patient on account of an abdominal tumour and of an excessive loss at her menstrual periods. At that time she was seen by Dr. Champneys, who made a diagnosis of uterine fibroid, but advised that no operation should be performed as she was not a fit subject.

At the beginning of May, 1905, the patient commenced to suffer from abdominal pain, cough and night-sweats; on June 25th from persistent headache and from diarrhœa, passing three or four loose motions a day. At the time she presented herself at the hospital her temperature was 101° F. The symptoms were suggestive of enteric fever, and she was sent into the ward with this provisional diagnosis.

On admission her condition was thus described:

"A stout, heavily-built woman with no marked anæmia. Temperature, 101° F.; pulse 100, of fair volume and tension. Respirations 28 per minute. Tongue coated in the centre, red at the edges. Nothing abnormal discovered in heart or lungs. *Per hypogastrium* a large, firm tumour rises out of the pelvis and reaches to two inches above the umbilicus; it lies more on the right than on the left side of the abdomen. The spleen cannot be felt. Blood-count: No diminution of red blood corpuscles, leucocytes 11,000. The blood was tested for Widal's reaction, a dilution of 1 in 40 was used, two or three small clumps were observed, but the reaction was not sufficient to justify a positive diagnosis."

On July 4th the test was re-applied, using a dilution of 1 in 20; there was no agglutination. This was repeated on July 6th, again with a negative result.

After admission the diarrhœa ceased, the temperature ran an irregular course, varying between 99° and 101°; the woman was obviously ill, and there was difficulty of respiration in the recumbent posture, although there were no physical signs to indicate any pathological condition in the lungs.

On July 17th she was seen by Dr. Champneys, who made the following note:

"*Per hypogastrium*, a hard tumour reaches 2½ inches above the navel—the abdomen is not tender. *Per vaginam*, the vagina admits one finger only, the cervix is small and high up. *Bimanually*, the abdominal mass moves with the cervix. *Per rectum*, nothing further is discovered. The patient has a large fibroid which is freely movable. The pelvic tissues feel normal; there is no reason to connect the temperature with any pelvic condition."

Between July 11th and August 8th the patient's general condition became steadily worse. The temperature remained persistently above the normal, and on several occasions rigors occurred, with a further rise of temperature to 103°F. There were sometimes attacks of abdominal pain, and the patient complained also of pain in the chest.

On July 11th peptone was detected in the urine. A note was made: "The presence of peptonuria suggests that some necrosis is going on, possibly in the fibroid."

On August 2nd cultures were taken from the blood with a negative result.

From August 15th to 17th hæmorrhage occurred from the vagina, a considerable quantity of blood was lost and clots were passed. A day or two after the cessation of this hæmorrhage the patient was seen by Dr. Griffith. In view of the facts that she was getting gradually worse, and that no pathological lesion could be discovered excepting the uterine tumour, he urged that an exploratory operation should be undertaken. The patient, however, refused her consent.

By August 22nd the general condition was much worse, the pulse was now 120, and the respirations 40 per minute; 10 c.c. injections of anti-streptococcus serum were administered twice daily. On this date the following note was made: "Over the right lung in front there is loss of resonance and the breath sounds are weak. Behind, there is impairment of percussion note at the right apex,

the breath sounds are weak, and the vocal resonance increased." It was now suspected that the uterine tumour was of a malignant nature, and that secondary deposits were present in the lung.

From August 24th to 29th there was hæmorrhage from the vagina, large clots were passed each day.

The patient then requested that the operation might be performed, and on September 1st was transferred to Martha Ward, under the care of Dr. Griffith.

Her general condition was, however, now such as to contra-indicate operation; she gradually sank and died on September 10th.

Post-mortem examination.—The condition of the uterus will be described immediately. The only other part of the body in which growths were found was the thorax. The following note is taken from the *post-mortem* book:

"On opening the thorax a large mass of soft growth was seen occupying the region of the upper lobe of the right lung. It was loosely attached to lung and pleura and came away easily in the hand; it was the size of a large orange. On section, it consisted of soft, brownish-red material, intersected by honeycomb-like structures similar to the large mass in the uterus. Both lungs contained several smaller masses, dark in colour, some of which were easily enucleated. On section, they also reproduced closely the appearances of the uterine tumour."

The heart, liver, and kidneys all showed evidence of fatty degeneration, but no other lesions were found.

Description of the specimen.—The specimen consists of the left half of the uterus. The organ is enlarged, the part preserved measuring $8\frac{1}{2}$ inches in length, $4\frac{1}{2}$ inches antero-posteriorly, and $2\frac{3}{4}$ inches from side to side. The external surface, smooth and covered by peritoneum, presents a number of small bosses due to the presence of sub-peritoneal fibro-myomata.

At the lower part of the specimen is the cervix uteri; its canal is dilated, its lips patulous, and the supra-vaginal portion is stretched and elongated to a length of $2\frac{1}{4}$ inches;

only faint traces of the arbor vitæ are visible, but portions of the mucosa from the upper part of this canal have been submitted to microscopical examination and exhibit the characters of cervical, not corporeal, endometrium. At a spot on the external surface corresponding to the fundus uteri is the point of attachment of the Fallopian tube and of the round and ovarian ligaments. The round ligament is hypertrophied and elongated. The fimbriated end of the tube is closed and is closely adherent to the cystic ovary; a small opening has been made into the distal end of the tube and a glass rod passed along its lumen towards the uterus.

On section, the greater part of the specimen is composed of a group of tumours growing in the anterior wall of the uterus. The uterine cavity lies at the lower part of the specimen; it is dilated and occupied by a fibroid polypus attached by a slender pedicle of mucous membrane to the anterior wall. The axis of the uterine cavity is almost at right angles to the cervical canal and is directed backwards; the cavity is enlarged, measuring $4\frac{1}{2}$ inches in length.

The walls of the uterus are hypertrophied; the posterior measures $\frac{5}{8}$ inch in thickness, the anterior contains interstitial tumours.

One of these tumours occupies the highest part of the wall; it is of the size of a golf-ball, is encapsuled, and is composed of dense white tissue. Microscopical sections show that it is a fibro-myoma.

A second growth, smaller, but otherwise possessing similar characters, lies lower down in the wall a short distance above the uterine cavity.

The third tumour, much the largest of the three, presents very remarkable characters. It measures $5\frac{1}{2}$ inches in length, $4\frac{1}{2}$ inches antero-posteriorly; it is interstitial, surrounded everywhere by the fibro-muscular tissue which constitutes the anterior wall of the uterus, and is composed of two varieties of growth—(*a*) dense, white, fibrous-looking tissue, the continuity of which has become broken by

Illustrating Drs. GRIFFITH and WILLIAMSON'S Case of Fibromyoma undergoing Sarcomatous Change.

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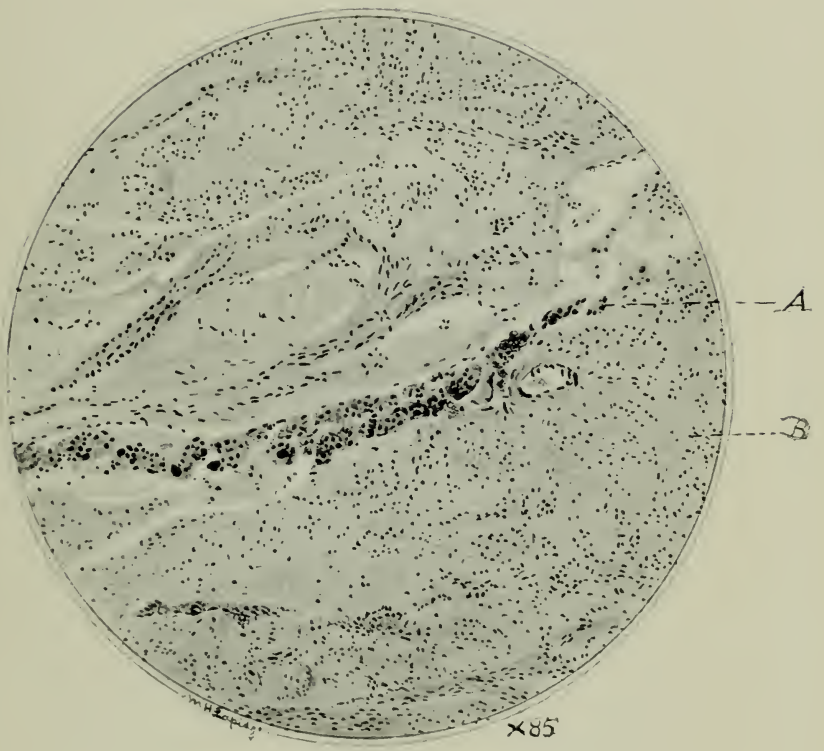

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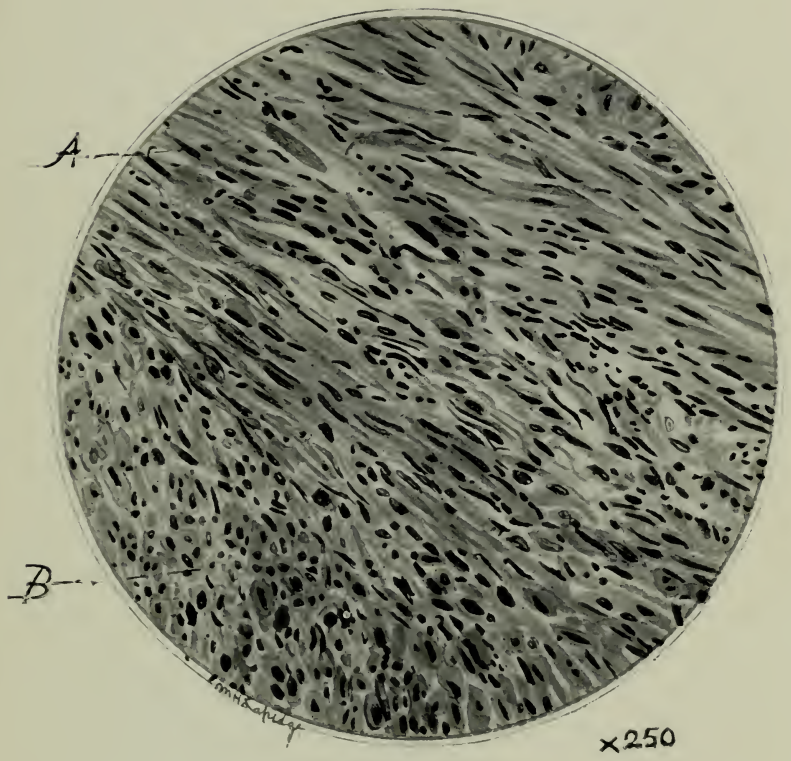

Illustrating Drs. GRIFFITH and WILLIAMSON's Case of Fibromyoma undergoing Sarcomatous Change.

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the presence of (*b*) masses of friable material of a deep red or brown colour. This latter material is situated chiefly in the posterior part of the tumour and in its general appearance closely resembles blood-clot. Microscopic sections show that the dense white part of the tumour is a fibro-myoma, whilst the friable red portion is a sarcoma.

The fibroid polypus, which occupies the uterine cavity, can be easily displaced; it is then found that the cavity is everywhere lined by a smooth mucosa entirely free from new growth.

It is important to note once again that the whole mass of fibro-myoma and sarcoma is encapsuled, and, whilst the sarcomatous elments have extensively invaded the fibro-myoma, as far as can be ascertained without mutilating the specimen, the uterine wall is but little affected.

Description of microscopical appearances. (1) *Section from the firm white part of the tumour.*—The section presents the appearances commonly seen in a degenerate fibro-myoma; it is composed of interlacing bands of unstriped muscle and of fibrous tissue. In some parts the nuclei still possess their usual staining reactions, in others they stain only feebly or not at all. The cell-fibres have lost their individual outlines and are represented by masses of almost homogeneous substance staining faintly with eosin. In some places are vacuolated areas and small cystic spaces formed by myxomatous degeneration of tissues; in other places are areas of inflammation with small-celled infiltration of the tissues. Only few thin-walled vessels are seen scattered through the section.

At one spot the fibro-myoma tissues are invaded by an elongated strand of sarcoma cells. The characters of these cells are precisely similar to those to be described in the next section.

(2) *Section from the red friable part of the tumour.*—The friable portions of the tumour are composed of a mass of cells of whose malignancy there can be no question. They are of very different sizes and shapes;

most of them are round, some are elongated and spindle-shaped, some are very large and contain as many as six or eight nuclei; these may be designated "giant-cells." In nearly all the cells the nuclei are large, active, and deeply staining; sometimes they occupy almost the whole of the cell.

The cells are separated from one another by a homogeneous intercellular stroma which stains clearly with eosin.

At the periphery of the malignant portion are elongated cells with long rod-shaped nuclei; these cells lie near to the muscle-cells of the fibro-myoma, and both can be seen in the same field of the microscope. They are obviously malignant, but in their shape and form resemble muscle-cells; * in most parts of the section, however, no such resemblance can be seen. No well-formed blood-vessels are seen, but there are many vascular channels traversing the section.

(3) *Sections from the secondary growths in the lungs.*— The cells in these masses are all of the round and spindle-shaped varieties. There are no cells visible which resemble muscle-cells in either their form or arrangement.

The study of the relation between sarcomata and fibro-myomata of the uterus is one which is beset with difficulties, and in which we must proceed with the greatest caution.

The subject is rendered the more complicated by the use of the term "malignant degeneration" as applied to fibro-myomata. When an innocent tumour develops malignant characters we ought not to speak of the process as a degeneration; degeneration means a loss of vitality, leading often through slow or more rapid gradations to ultimate death. Malignancy, on the contrary, implies an activity and vitality so great that along the track of the malignant invading cells the normal tissues are disintegrated and destroyed.

* It is important to pay attention to this point, for, as we shall see later, many pathologists hold that sarcoma of the uterus commonly arises from muscle-cells.

Further, different writers use this term, inappropriate as it is, to indicate very different conditions.

(1) There may be present in the same uterus two entirely separate and distinct tumours, the one a sarcoma the other a fibro-myoma.

(2) A sarcoma may originate in some more or less distant part of the uterine wall and subsequently invade a fibro-myoma.

(3) A sarcoma may arise *de novo* in a pre-existing fibro-myoma, a new growth within a new growth.

(4) Possibly the cells of which the existing fibro-myoma is constituted may assume malignant characters.

All four of these conditons have been described under the name of "malignant degeneration."

Many authors have positively stated or tacitly assumed that all sarcomata of the uterine parenchyma have their origin in fibro-myomata; this doctrine, at one time widely accepted, has left its mark upon later writings, and even in recent papers there is often no clear distinction made between primary sarcomata and fibro-myomata undergoing malignant change.

Is the association of sarcoma and fibro-myoma a common one? For the answer to this question we must turn to published statistics.

Dr. Cullingworth in his admirably reported series of 100 fibro-myomata met with only one sarcoma. Haultain in a series of 400 cases met with one sarcoma. Simpson in 300 cases met with none, MacDonald in 280 cases with three. On the other hand, Mrs. Scharlieb in 100 consecutive cases met with six sarcomata, whilst Baker and Graves out of a series of 33 cases report three sarcomata. Here then, in this town of London, the association appears to be six times as common in the practice of Mrs. Scharlieb as it is in that of Dr. Cullingworth. What is the explanation? The diagnosis of sarcoma depends entirely upon the interpretation of certain histological appearances; one pathologist will accept these appearances as evidence of malignancy, another will refuse to do so.

This fact is brought home to us very forcibly if we review the cases of reputed sarcoma of the uterus brought before the Obstetrical Society of London during the last few years.

In 1902 Dr. Munro Kerr showed a small fibroid which, to quote his own words, exhibited "groups of cells throughout the tumour which are not cross-sections of muscle-fibres. These are considered evidence of a sarcomatous change having occurred in this tumour." The Pathology Committee reported: "We can find no evidence of sarcomatous change in the tumour."

In 1901 Dr. Galabin showed a microscopic section of a tumour removed from an unmarried lady aged 58. After removal the tumour was regarded as fibro-myoma; a small piece was preserved for examination, the rest thrown away. The Clinical Research Association reported it a sarcoma. Dr. Spencer differed from this view and regarded the section as part of a fibro-myoma. Unfortunately, the specimen was not referred to a committee.

In 1899 Dr. Amand Routh exhibited before the Society what he described as a myxo-sarcoma of the uterus. The Pathology Committee reported: "We are of opinion that this specimen is a fibro-myoma showing extensive round-celled infiltration (inflammatory), with general thrombosis of vessels and mucoid degeneration in parts."

These instances might be multiplied, but we have said enough to show how extremely difficult it is to arrive at any reliable conclusion regarding the frequency of the association. Mr. Doran has often pleaded the importance of after-histories, never with greater justice than in the case of these reputed sarcomata of the uterus.

The changes which may occur in a fibro-myoma as the result of œdema, of degeneration, and of inflammation lead to marked alteration, in both the muscle-fibres and the connective-tissue cells, alterations which are often interpreted as evidences of malignancy.

In the case of the specimen before us there can be no question that we are dealing with a true sarcoma. Its

constituent cells have all the characters which we associate with malignancy; the growth has unquestionably invaded surrounding tissues; metastatic deposits of a similar structure are found in distant organs, and finally, the disease has killed the patient.

To determine what is the relation of the sarcoma to the fibro-myoma is a matter of grave difficulty, and the discussion of this question will necessitate a brief review of certain other cases.

We have already drawn attention to the fact that sarcoma and fibro-myoma may co-exist in the same uterus under four different conditions. Let us examine each of these a little more closely.

(1) The two growths may exist as separate and distinct tumours. For the proof of this statement we need only briefly refer to a specimen exhibited before the Obstetrical Society on May 7th, 1902, by Dr. Tate, and figured on Plate IV A of the Society's 'Transactions' for that year. The specimen was referred to a Pathology Committee, of which one of us was a member. The report was as follows: "We are of opinion that this specimen is a primary sarcoma of the body of the uterus, and that it is associated with a fibro-myoma. There is no evidence that the sarcoma represents a malignant degeneration of a fibro-myoma. There is a distinct line of demarcation between the two tumours. The microscopical appearances show that the malignant tumour is a mixed, round, and spindle-celled sarcoma, whilst the innocent tumour is undoubtedly a fibro-myoma. There is no evidence of invasion of the fibro-myoma by the sarcomatous growth."

It is quite clear that the specimen before us cannot be referred to this class.

(2) A sarcoma may originate in a more or less distant part of the uterus and subsequently invade a pre-existing fibro-myoma. For the proof of this statement we select a case published by Whitridge Williams in the 'American Journal of Obstetrics,' vol. xxix, p. 753. Similar cases have been published by Ramond ('Progrès Médicale,'

vol. ix, p. 741) and Gottschalk ('Centralbl. für Gyn.,' vol. xi, p. 242). Williams's description is as follows:

"At the fundus the uterine wall was one centimetre thick, its lower portion being of various thicknesses, for a nodular tumour four centimetres in diameter occupied its anterior wall and extended down to the os internum. The surface of the tumour projected into the uterine cavity and presented a jagged, irregular, ulcerated appearance. The rest of the uterine cavity showed no trace of its normal mucous membrane, but presented an irregular, villous, necrotic surface which was composed of a soft tissue rich in vessels, and which apparently extended down into the muscularis."

Microscopic sections from this irregular villous growth showed it to be a spindle- and round-celled sarcoma containing some giant cells.

"Sections from various parts of the specimen clearly show that the sarcomatous new growth is limited to the inner surface of the uterus and extends only a short distance into its walls. It is probable that it originated in the mucosa, but as no trace of the endometrium remains, positive proof for this mode of origin cannot be adduced. Sections through the upper part of the large myomatous nodule and the adjacent portions of the uterine wall and cavity show clearly that the growth did not originate in the myoma, but only involved the portions of it which were adjacent to the uterine cavity, just as it did the other portions of the uterine wall."

It is a fact worthy of note that in the three similar cases of which we have found records the sarcoma appears to have had its origin in the endometrium.

Can we place the specimen before us in this group of cases? We believe not. Certainly the sarcoma did not arise in the endometrium, for this structure is everywhere intact, and the examination of microscopic sections reveals no pathological change beyond some flattening and atrophy, due probably to pressure effects. Nor can we find any evidence to justify the view that it arose in the

fibro-muscular wall of the uterus; we have examined sections of the uterine wall in the immediate vicinity of the tumour and find them free from malignant disease.

We are compelled, then, to place this tumour in one of the two last groups we have enumerated, and in our opinion the present state of our knowledge of the histogenesis of malignant tumours in general does not permit us to distinguish definitely between them.

We find no difficulty whatever in accepting the doctrine that a tumour originally innocent in both its clinical characters and microscopic appearances may become malignant; but whether the cells of the existing tumour assume malignant characters, or whether the malignant growth arises *de novo* in the innocent tumour, and by its invasion destroys and replaces the tissues of its host, we cannot say.

A fibro-myoma is composed of two varieties of tissue, muscle-cells and connective-tissue cells, and in most cases it is from one or other of these forms of tissue that the cells of the sarcomata are derived. We say "in most cases," for in a few rare instances the growths have arisen from lining cells of blood-vessels or of lymph-channels; these cases of uterine endotheliomata are, however, admittedly few and far between.

Has the sarcoma arisen from muscle or from connective-tissue cells?

Many authors have described a malignant change occurring in muscle-cells; to the form of tumour thus constituted the term "leiomyoma malignum" has been applied. Clinically these tumours are distinguished by their rapid growth, their tendency to recur after removal, and by the development of metastases of similar structure in the lungs and other viscera. On microscopic examination the cells are elongated, but are of many different varieties. Uleska-Stroganova, von Kehlden, and Whitridge Williams state that they have traced every stage of the transition from an apparently normal unstriped muscle-fibre on the one hand to a sarcoma spindle cell on the other. Round cells and giant-cells, often containing

many nuclei, are commonly met with, and in general it is only at the periphery of the growth that the resemblance to muscle-fibres can be traced.

German and American pathologists regard the muscle-cell as the commoner site of origin of the malignant growth; on the other hand, the view of the members of the Obstetrical Society in the past has been that sarcoma arises only from the connective-tissue cells. This is the view expressed by Dr. Horrocks and recorded in the Society's 'Transactions' for 1898, p. 178, and again in the 'Transactions' for 1901, p. 226, and at neither of the meetings were his opinions controverted.

We have pointed out in our description of the microscopic appearances of this specimen the resemblance in shape and form at the growing edge of the tumour between the sarcoma cells and the adjacent muscle-fibres. The cells are elongated and pointed at either end; the nuclei, enormously enlarged and in process of active division, are in some cells still rod-shaped, in others rounded, and further, the cells are still grouped together in the form of bundles and strands. These appearances certainly suggest that the sarcoma may have arisen from muscle-fibres. Other cases have been described which render equally probable a connective-tissue origin, and the truth is that from either of these cells a malignant growth may arise. We see no need to introduce a new term, such as "leiomyoma malignum,"; both the tissues are of a mesoblastic origin and a malignant neoplasm of either is correctly described as sarcoma.

We show this specimen to-night as an instance of sarcomatous change occurring in fibro-myoma. Whether the sarcoma has arisen *de novo* in a pre-existing fibro-myoma, or whether the cells of the fibro-myoma have assumed malignant characters we do not pretend to say. Further, from the microscopical appearances seen at the growing edge of the tumour, we think it quite possible that the sarcoma may have at least in part originated in muscle-cells.

The specimen was referred to the Pathology Committee.

Reference.

(1) Cullingworth.—An Analysis of 100 Cases of Fibro-myoma. Journ. Obstet. and Gyn. Brit. Emp., 1902.

(2) Baker and Graves.—Amer. Journ. Obstet., September 1903.

(3) MacDonald.—Complications and Degenerations of Uterine Myomata. Journ. Amer. Med. Assoc., 1904.

(4) Haultain.—Malignant complications of Fibro-myomata. Journ. Obstet. and Gyn. Brit. Emp., 1904.

(5) Scharlieb.—Analysis of 100 Cases of Fibro-myomata. Journ. Obstet. and Gyn. Brit. Emp., 1902, vol. ii.

(6) Ulesko-Stroganova.—Ueber das Maligne Myom. Monats f. Geb. und Gyn., xviii, H. 3 and 4.

(7) von Kahlden.—Ziegler's Beiträge, xiv, 1893.

(8) Whitridge Williams.—Amer. Journ. Obstet., vol. xxix, p. 721.

Dr. Bell said he wished to mention a case of fibro-myoma undergoing sarcomatous change which was shown to the Society by Dr. Tate two months ago. The major portion of this tumour was undoubtedly only degenerating fibro-myoma, but there was a small part which was extremely vascular and somewhat friable. On microscopic examination this part seemed to the speaker to be undoubtedly sarcomatous. The specimen has, however, been considered by the Pathology Committee, and they had declared themselves unable to pronounce definitely in favour of the sarcomatous change. He was now able to say that the Pathological Department at St. Thomas's Hospital, when the tumour was removed, entertained no doubt upon the point. The patient left the hospital two months ago, but when last heard of she was obviously ill, and every effort would be made to keep in touch with the case and report the after-history to the Society. In view of the scepticism so often expressed in England it was desirable that every case should be fully reported and investigated. He welcomed the case so fully brought before them to-night, and hoped the specimen would be referred to the Pathology Committee for their consideration and report. It was remarkable, in comparison with the attitude of many in this country, that Piquand, in his recent exhaustive article on "Sarcoma of the Uterus" in the 'Revue de Gynécologie' did not stay to argue the question of the origin of many sarcomata from previous fibro-myomata, but proceeded directly to the dis-

cussion of the source of the sarcomatous cells, agreeing very closely with the views propounded by the authors of the paper to-night. He was glad to hear Dr. Williamson discard the term "degeneration" as unsuitable to a new growth.

Dr. Herbert Spencer said that such an excellently described case left no room for criticism. He had no doubt that the Pathology Committee would accept this case as a sarcoma arising in a fibroid. One point he noticed which interested him was the occurrence of giant cells. In many of the cases of sarcoma of the uterus which he had seen large or giant cells had been present, and he looked upon their presence as of considerable value in deciding what was often a difficult question of diagnosis, whether a tumour was an inflamed fibroid or a sarcoma. He did not remember ever to have seen them in a case of myoma. He mentioned a case illustrating the great difficulty in some cases of making a diagnosis between the above two conditions. He believed that sarcoma of the uterus was commoner than was generally supposed. He was led to give up amputating the uterus for fibroids partly by the occurrence of two cases of sarcoma, which were supposed to be fibroids at the time of operation, but which subsequent investigation and the development of secondary growths showed to be sarcomata. In those two cases he believed the growths began in fibroids, though the origin could not be demonstrated so clearly as in the case recorded. It was well known that sarcomata also arose in the mucosa.

Dr. Williamson said that the paper had been so kindly received that the task of replying was a very easy one. He was greatly interested in the case to which Dr. Bell had referred. Unfortunately he was present only at the first of the meetings of the Pathology Committee at which the specimen was discussed. From the sections he examined then he was convinced of the presence of sarcoma tissue; the case was one of importance, and he hoped that Dr. Bell would be able to keep the patient under observation, and to make a further report. Dr. Spencer attached considerable importance to the presence of giant cells in these uterine sarcomata. He entirely agreed with this, and believed that when such cells could be demonstrated the tumour was probably of a malignant nature.

FEBRUARY 7TH, 1906.

W. R. DAKIN, M.D., President, in the Chair.

Present—38 Fellows.

Books were presented by the St. Thomas's Hospital Staff, Société de Médecine de Rouen, Dr. Cullingworth, Dr. Spencer and Dr. Nolan.

The following candidates were proposed for election: Sydney Lawrence Harke, M.R.C.S., L.R.C.P.; Louise McIlroy, M.D.(Glasgow).

A SECOND CASE OF ABDOMINAL OVARIOTOMY DURING LABOUR.

By HERBERT R. SPENCER, M.D., B.S., F.R.C.P.,

PROFESSOR OF OBSTETRIC MEDICINE IN UNIVERSITY COLLEGE, LONDON; OBSTETRIC PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL.

M. H—, a primigravida, aged 24, was admitted to University College Hospital on August 9th, 1905. She stated that the abdomen had been tapped about three weeks previously at a London lying-in hospital. After-

wards she was told that she had a tumour in addition to pregnancy, and was admitted to the general hospital, to which the obstetric physician was attached, with a view to having the tumour removed. The patient, however, declined to have the operation done there, and left the general hospital, and, as the abdomen was rapidly increasing in size, she applied for treatment at University College Hospital.

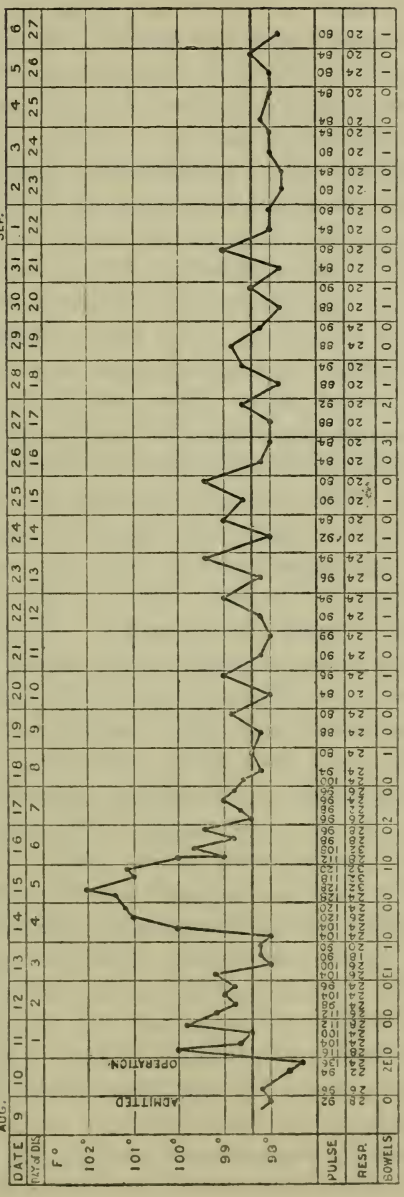
She was a little over eight months pregnant, having ceased to menstruate in the first week of December, 1904, and had always been regular previously. In the last three months the abdomen had swelled very rapidly, and since she was tapped she had again increased greatly in size.

She had no pain before the swelling was noticed, but had had increasing pain since. The pain sometimes shot down the outside of the left thigh, which almost always felt numb. She had been losing flesh. There was no history of discharge from the vagina, and no history of tumour or cancer in the family.

I saw the patient next morning, August 10th. She looked bloated in the face. The abdomen was enormously distended, measuring forty-seven inches in circumference (twenty-three and a half inches on each side). From the ensiform cartilage to the umbilicus measured thirteen inches, from the pubes to the umbilicus twelve inches. The surface of the abdomen was mottled, red and white, and there were scratches on the abdominal wall, the result of irritation. Large veins were seen coursing over the upper part of the abdomen.

The greater part of the abdomen was occupied by a thin-walled cyst, dull on percussion, giving distinct fluctuation, but no ballottement even in the knee-chest position, which was assumed with difficulty.

The lower part of the abdomen was occupied by a firm tumour, which was felt more on the right side. This was the pregnant uterus, and could be felt to harden, while the upper cystic tumour remained flaccid. The



Temperature-chart of Dr. Spencer's second case of abdominal ovariotomy during labour.

outline of this tumour could not be distinctly felt. The flanks were resonant. The os uteri admitted two fingers. The head presented, and was low in the pelvis. Contractions could be felt *per vaginam* from time to time. No part of the tumour could be felt in the pelvis.

The case was diagnosed as a large, and probably ruptured, ovarian cyst, complicating labour. It was decided to wait for a few hours until the labour was more advanced; this would also permit careful preparation of the abdomen. I operated at five o'clock in the afternoon of August 10th by opening the abdomen in the middle line above the umbilicus. The tumour was found to be extensively adherent to the abdominal wall in the neighbourhood of the puncture. The wall of the tumour was extremely thin and translucent in places, and had ruptured at the lower part, allowing fluid to escape into the peritoneal cavity. The abdominal incision was enlarged upwards, and the omentum was found to be extensively adherent to the upper part of the cyst, and required several ligatures. Fourteen pints of glairy fluid were collected, but a good deal was lost. The cyst was so thin and soft that it tore readily when seized with forceps. The tumour was a multilocular cyst of the left ovary, and contained no solid growth. The pedicle was tied in two and as a whole with floss silk. Afterwards the ovarian vessels were separately under-stitched, and the peritoneum was drawn over the raw surface with fine silk. The abdomen was flushed with saline fluid. The need of taking every precaution against hæmorrhage from the pedicle was seen during the uterine contractions, which rendered the parts very tense. Owing to the shortness of the pedicle the stump had to be cut off nearer the tumour than I like. The wound was closed with deep stitches of silkworm gut, fascial stitches of fine silk and silkworm gut for the skin. Sterilised gauze dressing was applied. Strong labour pains had set in an hour before the operation. A vaginal examination was now made, and the cervix was found to be fully dilated, and the head

low down in the pelvis. The forceps was applied, and a female child, weighing 6 lbs. 10 oz., alive and strong, was delivered. The child was slightly under the influence of the anæsthetic, but soon breathed. The placenta was expressed a few minutes later. There was no post-partum hæmorrhage. The whole operation, including the forceps delivery, lasted seventy minutes; much of this was occupied in tying off the adherent omentum.

Mother and child recovered well; the temperature chart is appended; the mother suckled her infant. The wound healed by first intention. The lochial discharge ceased on August 20th.

The patient left the hospital on September 6th with her child, both being very well. I saw them both on October 10th, 1905. The mother's uterus was well involuted, movable and free from tenderness. The abdominal scar was two and a half inches long and quite sound. The child weighed 10 lbs.

Remarks.—The first point which calls for comment in this case is the tapping to which the patient had been subjected before I saw her. Twelve years ago, in a paper read at the Medical Society of London,* I wrote: "The tapping of ovarian cysts, unless they are undoubtedly malignant, or unless the patient is suffering very acutely from some pulmonary affection, or grave general disease independent of the tumour, is, in my opinion, an unjustifiable procedure." Further experience has strengthened this opinion, but it seems desirable that the opinion of other members of this Society should be enunciated, since in the year 1905 such treatment has been adopted in a lying-in hospital of the Metropolis. I do not anticipate that there will be many Fellows of our Society who will advocate tapping an ovarian cyst complicating pregnancy.

The second point of interest is the line of conduct which should be pursued in the case of a patient in labour

* "A First Series of Fifty Ovariotomies," 'Trans. Med. Soc. Lond.,' vol. xvii, p. 86.

who has a large ovarian tumour which does not obstruct the pelvis.

The case is one which needs prompt treatment. The danger of rupture of the tumour when large is shown by this case (in which, however, it may have been due to the puncture), and by a case published by me in the 'Transactions of the Obstetrical Society' (vol. xliii, p. 224), where a large tumour spontaneously ruptured with fatal result on the third day after labour. Other similar cases are on record, and go to show the danger of postponing operation in the case of large tumour, for any considerable time after delivery.

We have the three alternatives :

1. To deliver by the natural passage, dilating the canal if necessary, and then to perform ovariotomy.

2. To perform ovariotomy, and leave the delivery to nature.

3. To perform ovariotomy at the end of the first stage of labour, and immediately afterwards to deliver by forceps while the patient is under the anæsthetic, as in the case now recorded. In suitable circumstances the two operations might with advantage be performed simultaneously.

Each of these three methods may properly be performed, and possesses special advantages under particular circumstances—the first in avoiding the injurious effects of the anæsthetic on the fœtus, and the facilitating the operation of ovariotomy and the ligation of the pedicle ; the second in avoiding the maternal and fœtal injuries which are so common with instrumental deliveries ; the third, of which the case here recorded is an example, in that the patient is delivered without pain of her child and her tumour with only one administration of the anæsthetic. The ovariotomy can usually be performed with more complete asepsis before than just after delivery, and the risk of rupture of the large cyst during the expulsive pains is lessened.

My only other case of ovariotomy during labour has been published in the 'Transactions,' vol. xl, p. 14. In that case the operation was undertaken for an incarcerated ovarian dermoid, with success for the mother and child.

Dr. Herman said that as Dr. Spencer had asked for expressions of opinion he wished to associate himself with Dr. Spencer in his two main contentions (1) that ovarian cysts ought not to be tapped except in very exceptional circumstances, and (2) that when an ovarian cyst was discovered during labour the proper treatment was to remove it with as little delay as possible.

Dr. Handfield-Jones congratulated Dr. Herbert Spencer on the successful result of his operation, and was glad that he was able to render the case more interesting by supplying notes of the patient's condition on admission to the Lying-in Hospital. The clinical history of the case in its early phases was imperfect, and lost much of its interest owing to this defect. The patient had been sent to the British Lying-in Hospital as a case of hydramnios, but on examination this diagnosis was found to be incorrect; the enormous distension of the woman's abdomen was due, undoubtedly, to a thin-walled, unilocular, ovarian cyst, complicating a pregnancy, which had advanced to about the seventh month. When first seen the woman's breathing was so distressed, the right heart was so dilated and the general condition so serious, that immediate operation would almost certainly have resulted in death. In order to give temporary relief the abdomen was tapped with a fine trochar, and fourteen pints of thin watery fluid were slowly evacuated. With the withdrawal of this pressure, the patient's condition rapidly improved, and in a few days she was moved into St. Mary's Hospital for the performance of ovariotomy. The patient, however, feeling so very much better, listened to the advice of friends who dissuaded her from accepting further surgical relief, and in spite of all other advice she left the hospital. It was only after being at home for some time, and finding her condition becoming rapidly worse again, that she went to University College Hospital and agreed to operation. The tapping of ovarian cysts was, of course, no longer a recognised treatment except in very rare cases, such as the present one, where it was merely done to obtain temporary respite, and to enable the respiratory and vascular apparatus to regain its balance.

Dr. Herbert Spencer, in reply, thanked Dr. Handfield-Jones for the previous history of the case. He did not think that tapping an ovarian cyst complicating pregnancy was indicated by distension produced by the tumour. Nor did he agree that tapping was harmless; on the contrary, he thought it was always harmful, and in the great majority of cases caused adhesions. In the case he had recorded these adhesions had constituted the only difficulty, and greatly prolonged the operation. Out of his first fifty ovariotomies six had been tapped by others before the operation, and of these five had adhesions, and in the sixth a large quantity of fluid (twenty pints) had escaped into the peritoneum.*

* 'Trans. Med. Soc. Lond.,' vol. xvii, p. 90.

RADIOGRAPH OF FŒTUS IN UTERO.

Shown by Dr. Heywood Smith.

Dr. Heywood Smith showed the first radiograph, as far as he was aware, that had been taken of the *fœtus in utero*. The mother was about 33 years of age. She was at the thirty-sixth week since the last period. The last period was March 20th to 23rd, 1905, the photograph was taken November 27th, and the child (female) was born December 11th. The radiograph showed clearly the head of the child about a quarter of an inch above the upper border of the os pubis, horizontal, and one could easily distinguish the occiput to the right. He would draw attention to the fact that the liquor amnii, like other somatic effusions, as, *e. g.*, serum, pus, hinders somewhat the passage of the X-rays, so that the head, occupying the lower segment of the uterus and filling it, its outline was clearly discernible, whereas higher up, where the liquor amnii surrounded the body and limbs of the child, little could be made out, yet the spinal column of the mother could be plainly seen through uterus and child. Dr. Heywood Smith believed that, with the experience gained in the attempts to obtain the present result, in the future a more distinct and successful radiograph could be got.

He considered such photographs might prove of great service in some cases in determining the presence of twins, or varieties of presentation, besides any deformity of the pelvis.

Dr. Heywood Smith presented the radiograph to the Society. It was taken by Mr. Coldwell, of Welbeck Street; exposure seventy seconds; distance of bulb from mother's abdomen about eight inches.

Dr. Spencer suggested that, in view of the supposed sterilising effects of the X-rays in adults which led to the wearing of metal shields by operators, it might be advisable to protect

the generative organs of the fœtus *in utero* by the same means when skiagrams of the pregnant uterus were taken.

In answer to an observation by Dr. Herbert Spencer as to a possibility of the rays having affected the organs of generation of the fœtus, Dr. Heywood Smith said the child was so far healthy, though the mother could not nurse it.

A CASE OF CHORION-EPITHELIOMA.

Shown by Dr. John Phillips.

The patient, aged 21, and married eighteen months, was delivered of a hydatidiform mole three months before her admission. During the whole pregnancy there was a constant red discharge. The patient's medical attendant had some difficulty in removing the ovum. She had an attack of hæmorrhage six weeks later, again a week afterwards, and a third a month afterwards, the loss being bright red with clots. After her admission she had three sharp attacks of hæmorrhage, the temperature varying between 102° F. and 104° F., and the pulse rapid and of poor quality.

On January 9th, 1905, under an anæsthetic, examination showed that the uterus was enlarged, mobile, anteverted, and softish in consistence; the cervix was soft and dilatable, and, with a little pressure, the index finger could be pushed up into the uterine cavity. On the posterior wall of the fundus uteri a softish, flattened swelling was felt, of the size of a bean. A small portion of this was removed, and a pathological report proved the growth to be a chorion-epithelioma.

On January 13th vaginal hysterectomy was performed. It was noted at the time that the tissues were very friable and vascular. For about ten days subsequent to the operation her temperature remained about 100° F.; it

then rose rapidly, and varied between 102° F. and 104° F. for fourteen days, after which there was a gradual descent and complete recovery. The patient was well a year after the operation.

The specimen was referred to the Pathology Committee.

Dr. Cullingworth said that the value of the communication was enhanced by the fact that twelve months had elapsed since the operation. As no recurrence had taken place within that time there was reasonable ground for hoping that none would occur. But he would venture to suggest to Dr. Phillips that he should report upon the case again after the lapse of another twelve or eighteen months, so as to complete the record in the Society's 'Transactions.'

Mr. Malcolm said that the patient, whose case he reported in the 'Transactions' for 1903* in association with Dr. Cuthbert Lockyer and Dr. Hamilton Bell, was alive and well four years and seven months after the operation. On May 8th, 1901, Dr. Bell cleared out a large hydatidiform mole. On May 29th, 1901, he, Mr. Malcolm, removed two multilocular ovarian cystomata and the uterus. In the latter there were two nodules. Dr. Lockyer described the pathological conditions in detail, saying that the nodules in the wall of the uterus presented "the typical appearance of chorio-epithelioma."† On January 2nd, 1906, the patient wrote, in answer to our inquiry:—"My general health continues good, my appetite is very fair, I sleep well, and am able to attend to my household."

Annual Meeting.

The audited Report of the Treasurer (Dr. G. E. Herman) was read; its adoption and vote of thanks were moved by Dr. Amand Routh, seconded by Dr. Eden, and carried unanimously.

* P. 483.

† P. 492.

RECEIPTS.

1905.	£ s. d.	£ s. d.
To balance from 1904		130 4 10
Add withdrawn from Deposit .		500 0 0
„ (1) Annual Subscriptions .		500 17 6
„ (2) Composition Fees . .		52 10 0
„ (3) Midwives' Examination Fees		691 17 0
„ (4) Sale of 'Transactions'		
(Longmans) . .	56 15 6	
Do. do. (Society) .	3 6 3	
Do. Old Stock . .	2 0 0	
Do. Pelves . . .	13 0 0	
Do. Midwives' Questions, Spoiled Stamps, Regulations, etc. .	3 6 0	
		78 7 9
„ (5) Registration Fees. .		1184 0 0
„ (6) Interest on Debentures .	80 14 0	
Ditto on Consols . .	14 5 0	
Ditto on L.C.C. 3% Stock	23 0 4	
Ditto on Deposit . .	4 14 5	
		122 13 9
		£3260 10 10

Audited and approved.

Newson-Smith, Lord, & Mundy,
Chartered Accountants.

January 31st, 1906.

PAYMENTS.

1905.	£ s. d.	£ s. d.
By (1) 'Transactions' . .		238 4 7
„ (2) Library:		
Books purchased . .	31 3 9	
Binding . . .	11 7 0	
		42 10 9
„ (3) Museum and Library:		
Rent	200 0 0	
Librarian's Salary . .	180 0 0	
Repairs, etc. . .	33 19 7	
		413 19 7
„ (4) Expenses of Meetings .		32 0 3
„ (5) Stationery, Stamps, and Printing . . .		61 16 2
„ (6) Examination of Midwives:		
Fees paid to Examiners .	320 4 0	
General Expenses . .	143 11 7	
Half Fees returned . .	46 4 0	
		509 19 7
„ (7) Extraordinary Expenses:		
Purchase of Victorian Government 3½% Stock .	501 6 6	
Pathology Committee and other Expenses . .	4 14 6	
		506 1 0
„ (8) Registration:		
Central Midwives Board	1033 0 0	
General Expenses .	196 5 8	
		1229 5 8
„ (9) Banking Expenses .		0 16 5
„ (10) Balance at Bank:		
On Current Account .	125 16 10	
On Deposit Account* .	100 0 0	
		225 16 10
		£3260 10 10

* Total amount on Deposit £150.

G. E. Herman, *Treasurer.*

Report of the Honorary Librarian.

The work of the Library has been carried on satisfactorily during 1905.

The total number of volumes in the Library amounts to 6,145, of which 63 are periodicals. Of these 20 are publications bound in two volumes annually, and the other 23 are bound in one volume annually.

During the year 43 volumes have been added; 29 of which have been presented and 14 purchased.

The number of Fellows visiting the Library remains about the same as last year; and though a larger number of books have been taken out than in previous years by certain Fellows, there is reason to think that new Fellows do not realise their privileges, viz., that they are entitled to borrow four books at one time from the Library, and that current obstetrical periodicals are to be found on the Library table.

ARTHUR H. N. LEWERS,
Hon. Librarian.

The Report of the Hon. Librarian (Dr. A. H. N. Lewers) was received, and in moving its adoption Dr. Blacker said that the Library was undoubtedly one of the most valuable assets of the Society. He thought the reason why so few Fellows made use of the Library was because they had no means of finding out what books it contained. There was a pressing need for a new printed catalogue, the last having been published some twenty or twenty-five years ago. It was impossible for the ordinary Fellow of the Society, who might not live at all near the Library, to find out if it contained any book he might wish to take out unless he paid a personal visit to the Society's rooms. When this matter had been broached in former years the excuse had always been that there was so much pressure of work in connection with the Midwives Board that it could not be undertaken. Now that the Society was no

longer examining midwives he hoped the Library Committee would undertake the issue, not only of an author's catalogue, but also of a subject catalogue. They were both urgently needed.

Dr. Fairbairn seconded the motion, which was carried unanimously.

The proposed alterations in the laws, whereby all mention of the Board for the Examination of Midwives was to be omitted, were confirmed, on the motion of Dr. John Phillips, seconded by Mr. Butler-Smythe.

The following Fellows were announced as Officers and Council for 1906 :

President.—W. R. Dakin, M.D.

Vice-Presidents. — Montagu Handfield-Jones, M.D.; Amand Routh, M.D., B.S.; Sir William Japp Sinclair, Knt., M.D. (Manchester); Albert C. Butler-Smythe.

Treasurer.—George Ernest Herman, M.D.

Editor of 'Transactions.'—Herbert R. Spencer, M.D.

Honorary Secretaries.—Robert Boxall, M.D.; Arthur H. N. Lewers, M.D.

Honorary Librarian.—William John Gow, M.D.

Ex-officio Members of Council.—Sir John Williams, Bart., K.C.V.O., M.D. (*Trustee and Past President*); J. Watt Black, M.D. (*Trustee and Past President*); Francis Henry Champneys, M.D. (*Trustee*); Henry Gervis, M.D. (*Past President*); Alfred Lewis Galabin, M.D. (*Past President*); G. E. Herman, M.D. (*Past President*); Edward Malins, M.D. (*Ex-President*).

Other Members of Council.—Henry Russell Andrews, M.D.; Charles James Cullingworth, M.D.; Ernest Rumley Dawson; George Eastes, M.B., F.R.C.S.; Thomas W. Eden, M.D.; John Henry Ewart (Eastbourne); John Shields Fairbairn, M.D., B.Ch.; William Sampson Handley, M.S., F.R.C.S.; John Benjamin Hellier, M.D. (Leeds); John Martin Munro Kerr, M.B., C.M. (Glasgow); Arnold W. W. Lea, M.D. (Manchester); Cuthbert Lockyer, M.D.,

B.S.; John Phillips, M.D.; Charles Hubert Roberts, M.D.; Mary Ann Dacomb Scharlieb, M.D.; Walter C. Swayne, M.D. (Bristol); James Henry Targett, M.S., F.R.C.S.; Thomas Wilson, M.D. (Birmingham).

Mr. Alban Doran proposed, and Dr. Heywood Smith seconded, a vote of thanks to the retiring Vice-President, Dr. A. H. Freeland Barbour, and to the other retiring members of Council, Dr. Murdoch Cameron, Mr. Goullet, Dr. D. Berry Hart, Dr. D. W. Roberts, Dr. Frank Rushworth, and Mr. C. J. Wright.

Votes of thanks to the retiring Hon. Secretary, Dr. Handfield-Jones, and to the retiring Hon. Librarian, Dr. Lewers, were moved by Dr. Champneys, seconded by Mr. Corrie Keep, and carried unanimously.

The President (Dr. Dakin) then delivered the Annual Address.

PRESIDENT'S ADDRESS, 1906.

Ladies and Gentlemen,—I have now to place before you a brief record of the events which have taken place during the past year in our Society—a somewhat colourless oration, inasmuch as your President, officially, never expresses any critical opinion on the work that has been done by the Fellows, save one of general approval. It seems to me on this occasion, at all events, that this approval can be given with sincerity, since there is no doubt that a great deal of most valuable work has been contributed to our 'Transactions,' as I hope to show.

The number of our Fellows has slightly fallen off this year, for whereas this Society had on its roll last year 588 ordinary Fellows and 13 honorary Fellows, there are at present 583 ordinary and 12 honorary Fellows. This reduction has come about by our losing 34 ordinary Fellows, 20 of whom have resigned, and 12, alas, have been erased from the roll. We may be glad that we have lost two only by death. 28 new Fellows have been elected. It is to be hoped that during this year there will be a very much larger addition to our numbers.

Neither of the two Fellows we have lost by death, nor a third who died last year, whose obituary notice I must include in this address, were well-known to more than one or two of us personally, but they were all men who had made their mark. One of them, an honorary Fellow, was an especially distinguished man, namely, James Read Chadwick, of Boston in the United States.

1. Rustonjee Naserwanjee Khory, M.D. (Brux.), L.R.C.P. Lond., was elected a Fellow in 1878, and died last year in London æt. 65. He was one of the Parsees of Bombay, a race of romantic origin, who have become the most important part of the native community in that city, being not only the richest but also the most enlightened and liberal. The Parsees have always been represented in the professions of law and medicine of India, and many of them come to England for their education. Dr. Khory was educated at the Grant Medical College, Bombay, and was a Licentiate of the Bombay University. He took his English qualification in 1870.

He became a leading physician in Bombay, and filled with great distinction the office of Dean of the Faculty of Medicine in the University.

He published in 1887 a work entitled 'Bombay Materia Medica and Therapeutics,' in which he enumerated and described the native drugs in a scientific manner. This work has been amplified under the name of 'Native Medicines of India and their Therapeutics,' by Dr. N. N. Katrak, and it is considered to be a publication of great value.

Dr. Khory was honorary physician to the Bai Motlibai Obstetric and Gynæcological Hospital.

2. Duncan Campbell MacCallum, M.D., Emeritus Professor, McGill University, Montreal, became a Fellow in 1871. Unfortunately I am unable to obtain any facts concerning Dr. MacCallum's life, for the materials which were promised by a friend of his have not arrived. He contributed four papers to our 'Transactions': "A Case of Intra-Uterine Peritonitis" in 1876; "A Report of the University Lying-in Hospital, Montreal, from October, 1867, to October, 1875," and "A Description of the Conjoined Twins, Marie-Rosa Drouin," both in 1878; and "A Case of Villous Degeneration of the Endometrium" in the volume for 1881. He died in 1904.

3. We have lost during the past year a Foreign Honorary Fellow, James Read Chadwick. He was with-

out doubt one of the foremost medical men in America, and accomplished, by his energy and magnetic personal qualities, more than is given to most men to bring to a successful conclusion in a life of sixty-one years.

Dr. Chadwick was born in 1844 at Boston. He joined Harvard College in 1865, and began the study of Medicine there in 1871, at the age of twenty-seven.

It is evident he soon made up his mind in which branch of Medicine he intended to work, for he was appointed Instructor in Gynæcology at that Medical School in 1873, a post which he held till 1880, and filled again in the years 1883 to 1887.

In 1875 he became Physician to Out-patients in the Gynæcological Department of the Boston City Hospital, and continued in this appointment till 1882. When he died he was Physician for the Diseases of Women at the same Institution.

In 1874, being then thirty years of age, he began the task to which he devoted the concentrated energies of his life—the institution and development of the Boston Medical Library, a work which will constitute for him a monument more enduring than brass. On the occasion of the dedication of the fine new building in which the Library is at present housed, in 1901, Dr. Cheevers, who was then President of the Library Council, and the successor of Oliver Wendell Holmes, Hodges, and Minot in the presidential chair, gave, in his opening address, a short account of the foundation of the Library Association, and in congratulating the Society on still possessing Chadwick as their Librarian said, "If any one man were named who had collected and created our Library it is he. He is a bibliophile who travels over Europe with a list of missing numbers always in his pockets. Persistent as the bee, he never comes home without honey." In giving his own explanation of the means he had employed to make the Library so complete as to be the fourth in size in American medical libraries Chadwick said, "The completeness of our files of journals and transactions I attribute largely to

the existence of the volume which I hold in my hand, my 'want book,' wherein, upon the left-hand page, is entered every volume or number needed to complete the file of that particular journal. By invariably carrying this with me upon my travels in this country and in Europe I have been able gradually, at a trifling expenditure of money, to complete the files of all the leading periodicals of the world. I submit this to your special attention if you wish to know how to build up a medical library with practically no funds for the purchase of books."

He announced at the same meeting that his plan was further "to enlarge the scope of the functions of the library by its assuming in addition the rôle of a society," believing "that the conjunction of the double attributes of a library and a society more than doubles the usefulness of the institution."

A memorial composed after his death by a Committee of the Library Council concludes in the following words:— "Dr. Chadwick began his own address at the dedication of our present home by reminding us that on a sun-dial at Oxford University are these words, 'Horae pereunt et imputantur' (the hours perish and are to be accounted for). His hours have passed, and the accounting is to be found in his labours for this and other libraries; in his work for the American Gynæcological Society; for the cause of cremation; in a busy professional life; in his many unrecorded acts of generous helpfulness and kindness; in the sixty or seventy titles of published papers, essays, and addresses; and in many minor fields of less continuous activities. This is no mean record. His contemporaries knew him well, and their descendants will not forget him.

One would imagine that such an undertaking as the building up of a library of the first rank would be enough for the spare hours of most men. But it was not enough for Chadwick. We find him in 1876 officiating as Secretary to, and no doubt taking a very active part in, the

foundation of one of the most distinguished Societies devoted to obstetrics, the American Gynæcological Society. It may be of interest if I quote what he considered the best principles on which to start such a Society. He says, in his speech at its inaugural meeting, "With regard to the special plan under which we should organise, it has been generally conceded to be better for our Society to have a restricted membership, and to require high qualification in the candidates for admission. By this means membership will come to be coveted, and our discussions be more profitable." In compliance with this principle the number of Original Fellows was fixed at 39, and by the rules of the Society then drawn up the total number of Fellows was not to exceed 60. Among the founders were Fordyce Barker (the first President), Peaslee, Emmett, Thomas, Marion Sims, Lusk, Noegerrath, Mundé, Skene, Goodell, Parvin, Byford, Engelman, and Atlee, with many others whose names are familiar to us on this side the Atlantic. Chadwick remained as Secretary till 1882, and was elected President in 1897.

In the same year he was elected a Corresponding Fellow of our Society, and in 1900 he was made an Honorary Fellow.

Judging from his portrait, and from his speeches and writings, one would take him to have been one of the kind of men we are accustomed to find in the cultured American—alert, genial in manner, and kindly of heart. That his temperament was of the artistic type is, I think, easily recognisable in his features and expression. In fact, Dr. Osler says of him that he was a "delightful companion, with a strongly artistic, even Bohemian, temperament, which made his house a rendezvous for the lighter spirits in and outside of the profession." But, in addition to being a "justum," we have seen he was a "tenacem propositi virum," and of that untiring energy which accomplishes its purpose in the least possible time, "ohne Hast, ohne Rast," although I should imagine that

on appropriate occasions he was not incapable of finding himself in either of these extremes.

I will now proceed, according to custom, to give a short account of the work that has been done at the Society's meetings during the year 1905.

I think the most useful and comprehensible way of doing this is to classify the material into (1) papers on obstetrical subjects; (2) papers on gynæcological subjects; (3) short communications and specimens illustrating obstetrical cases; (4) the same of gynæcological cases; (5) diseases and abnormalities of the newly-born.

The obstetrical papers are three in number:—"An Investigation into the Causation of Puerperal Infections," by Mr. A. G. R. Foulerton and Dr. Victor Bonney; "Mortality in Childbed both in Hospital and in General Practice," by Dr. Boxall; and "Eclampsia, Septic Peritonitis, Splenic Abscess, Death on 16th day after Delivery," by Dr. Holdich Leicester, of the Indian Medical Service.

Mr. Foulerton and Dr. Bonney read their paper in January. It is an interesting one, and deals with some of the most important aspects of puerperal septicæmia. It comprises an investigation into the micro-organisms found in the uterus of a number of puerperal women, of whom fifty-four had fever, and twelve had a normal lying-in. The authors made also a bacteriological examination of the cervical secretion of thirty cases of non-pregnant women suffering from cervical discharge, in order to discover if any of the organisms found in these cases were such as might cause puerperal septicæmia.

The results of their examinations were as follows:—They found the uterus sterile in all the normal cases of lying-in, and this is in agreement with what is generally believed, although Döderlein and others have asserted that organisms, even streptococcus, are occasionally present in the uteri of healthy puerperæ.

Of the 54 febrile cases they found in 40 of a severe type that streptococci, varying slightly in character among

themselves, were present in 25, showing how important a part this coccus plays in puerperal fevers. They found the pneumonia micrococcus in at least 4 of these cases, a proportion greater than that found by most other observers.

The *Micrococcus gonorrhœæ* was never present in the uterus, contrary to the experience of others; and they come to the conclusion that too much importance has been attached to this organism as a cause of puerperal fevers. The uterine contents were found to be sterile in 5 of the same series of 40, and in 10 out of 14 mild cases; and in these 15 sterile examples a marked proportion were primiparæ with considerable lacerations of the cervix or perinæum.

The conclusions they come to are, that in the absence of a bacteriological diagnosis all cases of puerperal sepsis in which the temperature rises above 102° F. should be dealt with as if they were due to streptococcic infection, and they recommend a compound antistreptococcic serum. They condemn entirely curetting of the puerperal septic uterus, as being in the first place of no use because the removal of all organisms by this means is impossible, and in the second as likely to do harm by opening up fresh surfaces. This, I think, is a pretty universally accepted principle. They further consider that precautionary measures, such as vaginal douching, against auto-infection by the micro-organisms which may be present in the vagina and cervix are non-efficacious.

Most of those who took part in the discussion had been disappointed in the results of the injection of antistreptococcic serum. Dr. Boxall was of opinion that prophylactic douches given early in labour were of value, both as tending to prevent septic infection and inflammation of the child's eyes.

In a paper on the Mortality in Childbed read in May Dr. Boxall considered the subject of puerperal fevers from a different point of view. His object in writing the paper was, in his own words "to present the records of the

York Road Hospital and the returns of the Registrars-General for London, England and Wales, Scotland, and Ireland in such a form that they may be strictly comparable. Dr. Boxall has, in doing this, continued further the series of valuable papers on the events of the puerperium which he has contributed from time to time to our 'Transactions.'

He took York Road Hospital as a type of a properly-conducted lying-in institution, and proceeded to show how little improvement in the general mortality of the country from childbed had occurred during the last twenty-five years, even when he compared the death-rate of the Hospital for the last twenty-five years with that of England and Wales for three recent years, namely, 1901, 1902, and 1903.

In discussing and analysing his tables, in which the statistics he has compiled were treated from various points of view, he found the following facts brought out among others: that severe septic illness was completely absent during the last sixteen years among the 8000 or more patients who were attended throughout in hospital; that 4 fatal cases of sepsis occurred among women in whom ineffectual attempts at delivery had been made outside before admission into the hospital; and that there was a complete failure, when thus introduced, of septic illness to spread to other patients in the hospital at the time.

The author gave a short account of the development, at this particular hospital, of the principles by the observance of which such satisfactory results had been obtained. In the course of his paper he comments on a "despairing note," which has been sounded in Germany, whereby the profession is invited to turn its attention to the curative treatment of puerperal septic disease on the assumption that it is impossible in private to prevent it. He drowns this note, however, in a cheerful passage illustrating the far more favourable circumstances in which a private patient finds herself—more cheerful even than those which surround her in the York Road Hospital. He believes

that if puerperal sepsis is to be eliminated in private practice it is necessary to go back to the root of the matter and to instruct the student practically in midwifery under proper supervision.

In discussing Dr. Boxall's paper Dr. Galabin said he thought the author had taken a rather too pessimistic view in his conclusion that puerperal mortality had, if anything, shown a tendency to increase. He explained another method of dealing with the available statistics, namely, by taking the mean death-rate of a period and comparing with it the death-rate of the early years and the later years respectively. He found by this means that there was a considerable reduction in the mortality, and that this was very marked in London, but that it existed also in the record of England and Wales. At the same time, he considered that an improvement, at least as much again, might be expected if antiseptic midwifery were carried out as effectually throughout England and Wales as in London.

Dr. Holdich Leicester sent a paper from Calcutta on a case of Eclampsia complicated with Septic Peritonitis and Splenic Abscess. He described the case in detail, and dwelt on the rarity of splenic abscess under such circumstances. The patient was a Hindu woman, who was admitted into the Eden Hospital with eclampsia, and was delivered of a dead fœtus with putrid liquor amnii. She had a rigor on the third day after delivery, and several others on subsequent days till the tenth day, when she complained of pain in the left side of the chest. She had further rigors, and died on the sixteenth day. The striking point in the *post-mortem* examination was an abscess which occupied half of the bulk of the spleen. There was also considerable peritonitis.

In April, Dr. Cuthbert Lockyer gave a most interesting demonstration with the lantern on the Corpus Luteum and Compound Lutein Cystomata found in association with Vesicular Mole and Chorio-epithelioma. The demonstration consisted of a large number of beautifully prepared lantern

illustrations of the normal and abnormal processes which occur in the Graafian follicle and corpus luteum during their development and retrogression. Dr. Lockyer discussed, among the normal events, the development of the theca interna from the tunica fibrosa; the production of the clot; the shedding of the granulosa layer; the formation of the corpus albicans and its disappearance. He showed the different ways in which cysts may develop from the corpus luteum during its retrogression, and explained how in some cases the cyst would have a lining of lutein cells, and in others one of fibrous tissue derived from the clot. In the discussion Dr. Williamson said he considered the fibrous tissue was derived from the membrana propria of the follicle, and not from the clot. Dr. Lockyer, in considering the origin of the lutein cell, held that it was really derived from the connective-tissue cells of the theca interna, thus differing from the majority of observers, who had till recently believed that it was a modified granulosa-layer cell.

He was of opinion that the usual period in which the lutein cyst might develop was before rupture, and further in follicles which never would rupture. He proceeded to describe the different modes in which this might happen, resulting in the formation of epithelial or non-epithelial cysts according as the granulosa layer remained or had disappeared. He believes that the ovarian hæmatomata, the hæmorrhage from which has, in a few cases, become important enough to simulate a ruptured ectopic gestation, mostly, if not entirely, arise in connection with developing Graafian follicles, or in the course of formation of lutein cysts. He also alluded to the fusion of lutein cysts with other varieties of cyst and the production of "complication cysts," and discussed the question of how lutein abscesses were produced, and their calcification, and said he had been unable to satisfy himself that any solid lutein new growth had ever been discovered.

A very interesting point in his remarks was his consideration of the relation of the presence of excess of

lutein tissue in ovaries to the growth of vesicular moles and chorio-epithelioma. He had found, in the course of his experience, that there is more lutein tissue to be found in the ovaries in cases of these two diseases of the chorion than in any other circumstances, and he discussed the doctrine of Fraenkel regarding the control exercised on the trophoblast by this lutein tissue.

Dr. Williamson and Dr. Blacker contributed most pertinent remarks on the opinions and statements of the author, the former observing as a further criticism that he had found lutein cells diffused through the ovary in quite normal cases, and the latter considering that, in view of the observations of Seitz as to the hyperplasia of lutein tissue in practically all cases of normal pregnancy, a very large body of evidence would have to be forthcoming before the influence of this tissue on the growth of the trophoblast could be accepted.

At the October meeting Dr. Herbert Spencer described a case of Carcino-sarcoma Uteri. This unwieldy name has been given to specimens where carcinoma and sarcoma existed side by side in the same uterus. In this particular instance vaginal hysterectomy was performed, and recurrence took place within two months. The author gives abstracts of similar cases, which appear to have occurred, as does simple cancer of the body, mostly in sterile women after the menopause. The sarcoma arises as a rule in the endometrium, and its smoother surface contrasts with the more irregular area of carcinomatous growth.

He believes that a careful examination of sarcomatous uteri will result in our finding that the association of the two kinds of tumour is less rare than has been suspected.

Mr. Handley suggested that one reason of their concurrence might be that the sarcomatous outgrowth so irritated the endometrium as to cause a cancer.

In November Mr. Doran gave the results of a most important investigation into the After-history of sixty cases of Subtotal Hysterectomy for Fibroids. These after-histories extended to at least two years after operation.

The paper was intended mainly to clear up the question as to how far the preservation of one or both ovaries affected the course of the artificial menopause induced by the operation. He also discussed the question as to how far the retention of a portion of the corporeal endometrium was of service in mitigating the discomforts of this crisis.

The analysis of the cases gave the following results:

In twenty-eight cases both ovaries were removed. Of these the menopause was neither immediate nor complete in three; the menopause was complete without symptoms in six; the menopause was complete with mild symptoms in nine; the menopause was complete with severe symptoms in ten. The severe symptoms consisted of violent flushings and, in two cases, of mania.

In twenty-six cases one ovary was saved. Of these the catamenia were regular for varying periods after operation in eight; the catamenia were irregular in five; the menopause was complete and immediate in thirteen. There were no severe menopause symptoms in any of these cases.

In six cases both ovaries were saved. Of these the catamenia were regular after operation in three; the catamenia were soon suppressed in two; the menopause was complete and immediate in one.

Mr. Doran considered that these results favoured the conservative treatment of the ovaries, that is, of ovarian tissue, and support the Abel-Zweifel theory as to the advantage of retaining some corporeal endometrium. He therefore preferred the subtotal operation to panhysterectomy. A lively discussion was begun by Mrs. Boyd, and carried on by Dr. Spencer, Dr. Heywood Smith, Dr. Griffith, and Mr. Malcolm. These speakers dealt with the relative advantages, from an after-history point of view, of subtotal hysterectomy and the complete removal of the uterus, with the individual varieties in the character of the menopause, and with the question of preservation of the ovaries, even if inflamed.

Mr. Doran hoped that someone would compile tables of

cases of panhysterectomy on lines similar to his method, and, indeed, seeing the differing opinions evidently existing among operators as to the relative value of these two ways of treating fibroid uteri, such a contribution to our 'Transactions' is most urgently needed.

In December Dr. Herman, at the invitation of our Honorary Secretary, opened a discussion on Ventral Fixation of the Uterus and its Alternatives. He enumerated four classes of case in which ventral fixation was useful:

(1) Retroflexion without appreciable descent, but with tenderness of the uterine body, not removed by mechanical support.

(2) Adherent retroflexion with tenderness, the operation being advised with caution.

(3) Retroflexion without tenderness of the uterus, but with descent, mechanical support being ineffective.

(4) Prolapse of uterus and vagina. Here the operation must be accompanied with elytrorrhaphy.

He considered ventral fixation less dangerous than Alexander's operation, and more permanent than vaginal fixation. He then proceeded to consider the dangers of ventral fixation. He concluded by stating his belief that the operation did not interfere with subsequent pregnancy or labour, and that it might prevent miscarriage.

Dr. Horrocks was of opinion that the operation was, by many gynæcologists, too often done, and he, personally, had not had to resort to it a dozen times altogether. He had in all other cases been able to relieve the patient by attention to the cause of the displacement and by mechanical means. He related a case where, in a woman who had undergone the operation, a pregnancy ended in obstructed labour, owing to the cervix looking directly backwards and being immovable, making a Cæsarian section necessary. He had also found that the dragging of the uterus had caused pain.

Dr. Galabin mentioned an alternative operation, that of intra-peritoneal shortening of the round ligaments. This method was free from the objections connected with preg-

nancy and labour, and free from the difficulties and dangers sometimes met with in Alexander's operation. He considered, however, that for extreme and obstinate degrees of prolapse ventro-fixation combined with elytrorrhaphy was the best operation, but that even this was not infallible. He was in favour of performing Lefort's operation for prolapse in elderly widows—that is, of forming an artificial median vaginal septum.

After some remarks by Dr. Heywood Smith as to the change of opinion regarding this operation (ventral fixation) that had developed during the last twenty years, Dr. Russell Andrews laid stress on the difficulties that might arise in pregnancy and labour after the operation, and also to some recorded cases of intestinal obstruction which seemed due to the ventral fixation.

Dr. Blacker had performed ventral fixation mainly for severe prolapse in the case of women who were not likely to again become pregnant, and, but on one occasion, in a single woman who had marked prolapse due to congenital weakness of the pelvic floor. He had obtained good results from ventral fixation combined with colpo-perinæorrhaphy and often with amputation of the cervix.

Dr. Arnold Lea considered it essential, in cases where the patient might afterwards become pregnant, to leave the fundus free in suturing the uterus.

The general tendency of the debate was to establish the operation as a good one in a certain number of cases of prolapse which could not be relieved by mechanical means, alone or combined with less important operative measures, and to show that it was not unattended with remote dangers.

Short Communications and Specimens illustrating Obstetrical Cases.

Among the abnormalities of pregnancy instances of ectopic gestation have been very frequently brought before us. Dr. Purslow, Mr. Doran, and Mr. Gifford Nash had

each met with cases of repeated tubal pregnancy. In Dr. Purslow's patient the two pregnancies were separated from one another by an interval of sixteen months only, and both pregnancies had attained the same age of development, and they affected each tube in turn. Mr. Doran had diagnosed a right tubal pregnancy the year before he operated for gestation in the left tube. The procedure, which had been discussed elsewhere, of removing the sound tube in any case of tubal gestation, as well as the pregnant one was decided by all the speakers to be inadmissible. Mr. Gifford Nash's patient had, like Dr. Purslow's, each tube affected in turn, the second pregnancy occuring two years after the first. The symptoms appeared on the thirty-fifth and the forty-third day respectively.

In Dr. Giles' case, of which the specimen was shown in March, the patient had advanced to the eighth month of pregnancy, and the operation for the removal of the fœtus took place a month after this. Dr. Giles waited for a month after the death of the child, and was able to remove the sac and placenta with success. The various speakers discussed the question of how long operation should be postponed after the fœtus was presumed to be dead, if it were desirable to wait for its death, and how far attempts should be made to remove the placenta. Dr. Herbert Paterson related a case in which he had operated in the sixth month when the fœtus was alive.

Dr. Russell Andrews described a case of ruptured interstitial pregnancy, in which he had completed the operation by doing a supra-vaginal amputation of the uterus, and discussed the question as to whether it would not be better practice, in a similar case, to merely excise the cornu with tube on the affected side. Dr. Boxall showed a specimen of rupture of a gestation sac in the fifth month. The sac had ruptured in two places. Dr. Holdich Leicester showed a specimen in which he believed rupture had occurred on two occasions.

Dr. Lewers showed a specimen of pregnancy in a rudi-

mentary horn which had advanced to the third month. Dr. Galabin described a case in which tubal abortion had been produced by a bimanual examination. The symptoms were not distinctive, and the amount of bleeding was very small.

In March a short communication was read by Dr. Holdich Leicester describing a case of chyluria which occurred in pregnancy. The first time the abnormality of the urine was noticed was near the end of pregnancy. Filaria embryos were found in the chylous urine. The woman had a normal labour and convalescence, and was discharged with her affection still persisting.

Among the accidents of pregnancy and labour there were two cases described—one, by Mr. Targett, of accidental hæmorrhage, in which he had felt compelled to open the abdomen and remove the body of the uterus on account of the urgency of the symptoms, and the probability of postpartum hæmorrhage in the existing state of the uterus; and one, by Dr. Nepean Longridge, of eclampsia, in which the patient was treated by saline infusion. Dr. Longridge gave interesting details of the chemical condition of the blood, and of the administration of alkalies to bring this nearer to the normal. He had also administered a considerable quantity of sugar, to increase the antitoxic function of the liver by providing an additional glycogen production, since it has been shown that the antitoxic power of the liver, which is important, can only be exercised in the presence of glycogen.

Three specimens were shown of instances in which fibroid tumours had imported some complication into obstetric cases. In Mr. Doran's case he had removed, by abdominal myomectomy, at the second month, a fibroid which had occupied the whole of the left half of the pelvis considerably below the level of the brim. The patient was delivered at term.

Dr. Frank Taylor showed in October a necrobiotic fibromyoma, which had occurred in pregnancy, and made some remarks as to the influence of pregnancy on such

tumours. Dr. Arnold Lea gave a description of case of puerperal sepsis caused by the suppuration of a small myoma. He had performed a vaginal hysterectomy with success.

One case of carcinoma of the cervix complicating labour, and its treatment, was described. This specimen was shown by Dr. Munro Kerr. He had performed Cæsarian section, ligatured the vessels of the uterus and separated it from its attachment *per abdomen*, and drawn it out *per vaginam*. He considered that the whole uterus should be removed when possible in such cases. Dr. Spencer expressed a most decided opinion in favour of delivering the woman *per vias naturales*, followed, during the puerperium, by high amputation of the cervix with the galvano-cautery in operable cases.

Short Communications and Specimens illustrating Gynæcological Cases.

There were a large number of specimens shown by various Fellows, and a new operation for the cure of vaginal cystocele was described by Dr. Hey Groves. It would be tedious to the Fellows present if I were to mention all these in detail, and perhaps it will suffice to say that the scientific value of the specimens was quite of the high standard we are accustomed to find at our meetings.

Abnormalities in Infants.

A specimen of extensive malformation of the abdomina and pelvic organs, combined with some abnormalities of the spinal cord, was fully described after dissection by Dr. Charles Singer in June. He made several interesting speculations as to the cause of these deformities. Two monsters were shown by Dr. Macnaughton Jones.

It must be a source of great satisfaction to the Society

that both in the writing of the papers contributed to our 'Transactions,' and in the discussing of the same and of specimens, our younger Fellows have borne a most important part. Such a condition ensures the continued success of a Society. And I think we are most happy in our scientific prospects, for we have a large number of earnest workers among our body who are not yet senior, and cannot quite be called junior Fellows. Many of them have made one or other subject their own, and are also ready to discuss with authority and knowledge the various problems that are constantly being presented for solution to the Society.

As regards our material prospects we are not, at the present moment, in quite so settled a condition. The question of the amalgamation of the London Medical Societies is still under consideration. There seems some likelihood of the scheme being carried through, and we are aware of the stage they have reached as far as we are concerned, and we discussed the scheme at the meeting of our Society held on December 4th. At that meeting we discovered that there were several points on which we had decided opinions. These are all recorded, and we may trust our representative on the Committee of Amalgamation, Dr. Champneys, to uphold our cause with vigour.

It is necessary this evening to bid a long farewell to the Chairmanship of the Board for the Examination of Midwives in the person of Dr. John Phillips. His work, on this occasion only, has, from the beginning, been merely ornamental, for on the only opportunity that arose for any duties to be performed by that sinecurist the honour of doing them was conferred on me. The office has now been abolished with the rest of our examining executive, but it will be a pleasant memory to some of those who have held it in the years immediately before they became President.

To Dr. Handfield-Jones, who is now retiring from the

post of Secretary, I must offer my sincere thanks for the help he has been to me personally. The Society has already shown its appreciation of his more public services.

Dr. HERMAN moved a vote of thanks to the President for his address, which was seconded by Mrs. Scharlieb, and carried by acclamation.

MARCH 7TH, 1906.

W. R. DAKIN, M.D., President, in the Chair.

Present—40 Fellows and 6 visitors.

Books were presented by the Royal Medical and Chirurgical Society, Dr. Frommel, Dr. Giles, Professor Fehling, and the Radcliffe Librarian.

Lewis Augustus Clutterbuck, M.B.Durh., was admitted a Fellow.

The following candidates were proposed for election: Thomas Sprot Allan, L.R.C.P. and L.R.C.S.Ed.; George Ernest Aubrey, M.B., B.S.Lond.

Sydney Lawrence Harke, M.R.C.S., L.R.C.P., and Louise McIlroy, M.D.Lond., were elected Fellows of the Society.

The President then announced the death of Professor Adolf Gusserow, an Honorary Fellow of the Society, and on the motion of Dr. Cullingworth, seconded by Dr. Herman, the recommendation of the Council that a letter of condolence be sent to his family was carried *nem. con.*

REPORTS OF THE PATHOLOGY COMMITTEE.

Report on Dr. Galabin's Case of "Spindle-celled Sarcoma of the Ovary" (*see p.* 19).

We have examined this specimen and microscopic sections taken from it, and consider it to be a fibroma of the ovary as the growth is encapsuled by the stretched-out tunica albuginea of the ovary, has on section a fasciculated structure, and microscopically shows a regular arrangement of interlacing bundles of cells of uniform size and character, with well-formed blood-vessels.

The report upon Dr. W. S. A. Griffith's and Dr. Williamson's case of fibro-myoma of the uterus undergoing sarcomatous change was deferred until the drawings and specimens are available for examination.

(*Signed*) Henry Russell Andrews.
John S. Fairbairn.
J. H. Targett.
Herbert Williamson.
Corrie Keep.
W. S. A. Griffith (Chairman).

January 17th, 1906.

Report on Dr. John Phillips' Specimen (with Microscopic Section) of Chorion-Epithelioma (*see p.* 45).

We have examined this specimen and microscopic section, and agree that it is a typical chorion-epithelioma, as described by the exhibitor.

Report on Dr. W. S. A. Griffith's and Dr. H. Williamson's Case of Fibro-myoma of the Uterus undergoing Sarcomatous Change (*see p.* 22).

We have examined this specimen and microscopic sections, and agree that it is a fibro-myoma of the uterus

undergoing sarcomatous change, as described by the exhibitors.

(*Signed*) Henry Russell Andrews.
R. Hamilton Bell.
G. F. Blacker.
T. W. Eden.
M. Handfield-Jones.
Herbert Williamson.
Corrie Keep.
W. S. A. Griffith (Chairman).

A CASE OF UNUSUAL MALIGNANT DISEASE OF THE UTERUS.

By Mrs. Scharlieb, M.D.

Miss E. J. H—, aged 60. Was first seen in 1900, when she was 55. Menopause at 54, periods had been profuse but regular. After the menopause she had a slight red discharge and some backache.

On examination a small fibroid was recognised on the supra-vaginal cervix.

On December 22nd, 1905, she reported that the symptoms had reappeared within the last few months, and that there was a foul-smelling discharge.

January 1st, 1906.—Dilatation and curetting. The uterus was enlarged and was freely movable. The old fibroid to the right of the supra-vaginal cervix had enlarged, and another growth was present. The curettage was abundant and offensive. The pathologist's report was: "This tissue in parts resembles old friable decidua, but on more careful examination it is clearly malignant. The carcinomatous cells lie in small alveoli. The tissue as a whole is very degenerate."

The uterus was removed by abdominal section on January 8th, 1906. It was about the size of a ten weeks'

pregnancy, and contained a fibroid of the size of a Tangerine orange, which had opened up the right broad ligament. There was a second small supra-cervical fibroid, of the size of a large gooseberry, posteriorly and to the left. There were one or two other quite small fibroids imbedded in the uterine wall. The uterus was removed in the usual manner and the patient made a very good recovery.

The parts removed consisted of the entire uterus, both ovaries and tubes; the tubes were healthy, the ovaries senescent. The condition of the uterus was as described above. On opening it, a necrosing, pyramidal mass, greenish at the tip and gelatinous or curdy-looking higher up, was found attached to the fundus by a flattened base two inches wide; it was soft in consistence. The apex reached to the internal os and was sloughy.

It was difficult to obtain a satisfactory microscopic section. Sections of the fundus uteri had a distinctly sarcomatous appearance, and in the scrapings from the apex there were large cells suggesting decidual cells.

The case appeared to be a rare one of a malignant polypus, without much infiltration of the uterine wall or any metastases.

Dr. Fairbairn thought one of the sections under the microscope showed a structure very like that of a degenerate decidual tissue, and that it would be better if the specimen were carefully examined by the Pathology Committee before it was accepted as an undoubted case of sarcoma.

The specimen was referred to the Pathology Committee (*see p.* 127).

TWO CASES OF IMPERFECTLY DEVELOPED INTERNAL GENERATIVE ORGANS, THE PATIENT IN ONE CASE BEING AN EPILEPTIC SUBJECT.

(With Plates IV and V.)

Shown by Cuthbert Lockyer, M.D., F.R.C.S.

My thanks are due to Dr. Amand Routh for his permission to show the first of these specimens. The patient was a single woman, aged 28. She had never menstruated, but every four weeks since the age of nineteen she had suffered from frontal headache, which, after lasting a day or two, became general, and was accompanied by shooting pains in the back and occipital regions. There was a sensation of blood rushing to the head and throbbing. At the same time there was pain in the lower abdomen and a sense of weight in the pelvic region. The patient at these times had fits after she went to bed at night. A fit was preceded by trembling and sweating, consciousness was lost, the tongue bitten, and urine voided. On coming out of a fit the patient would soon fall asleep. During these monthly attacks the breasts became painful, turgescent, and tender; the external genitals became tender. All symptoms lasted for three or four days. Usually on the first day of the headache there was bleeding from the nose; this continued from one to four days. Except for an attack of rheumatic fever four years ago, the patient had not suffered from any other general ailment. Both parents were dead, from causes unknown to the patient. There were three sisters, all married and all had children. One sister, who had had fits from infancy, died in an asylum. There were four brothers, all living and healthy; the patient is a short, bulky woman with a somewhat Simian look and inane expression. In intelligence she is slow. The breasts are well formed, there is pubic and axillary hair, the vulva is well formed and complete. On examination under anæsthesia by Dr. Routh, the lower

portion of the vagina was found to be very small, just admitting the little finger; above this, however, the canal was capacious; no uterus could be felt, but a transverse band appeared to take its place. The right ovary was palpable, the left was not. The last fit before admission occurred on December 23rd, 1905. On January 22nd, 1906, whilst in hospital she had a definite epileptiform seizure. The fit lasted seven minutes; "the clonic and tonic stages were well marked." Dr. Mott, in consultation with Dr. Routh, advised öophorectomy. This was performed by Dr. Routh, assisted by Mr. Colyer and myself, on January 25th, 1905. The right ovary lay high up in the fossa ovarica; to it was attached the outer extremity of an imperfectly developed tube, whilst the ovary itself was united by its ligaments to a tiny cornu uteri; the latter was continuous with a band or ligament which ran transversely across the pelvis to the opposite side, where a similar state of affairs existed, excepting that here the ovary had been dragged down to the internal abdominal ring. The round ligaments on both sides were enormously thickened, having, where they arose from the uterine cornua, nearly the same thickness as these bodies. These structures were drawn up, their pedicles transfixed, tied off, and divided. The abdominal wall was closed by fishing-gut and cat-gut sutures. The stitches were removed one week later; the wound healed by first intention. A fortnight after the operation the patient had a fit and her temperature rose to 100° F., but since then she has been brighter and has felt in much better spirits and expresses herself pleased that the operation was performed.

The specimens.—The left ovary is an elongated, flattened structure measuring 1½ inches in length, and ⅝ inch in width at its widest part. Its ligament is very strongly developed; it contains a small lutein hæmatoma. To its outer pole are attached some Müllerian relics in the shape of tubal fimbriæ and an hydatid of Morgagni. The ovary is united to the cornu uteri by a broad mesovarium, the upper edge of which forms the stout ovarian ligament.

DESCRIPTION OF PLATE IV.

Illustrating Dr. Cuthbert Lockyer's specimen of Appendages Removed from an Epileptic Patient.

A–A′. Elongated ovary.
B. Pervious Fallopian tube.
C. Round ligament.
D. Solid cornu uteri.

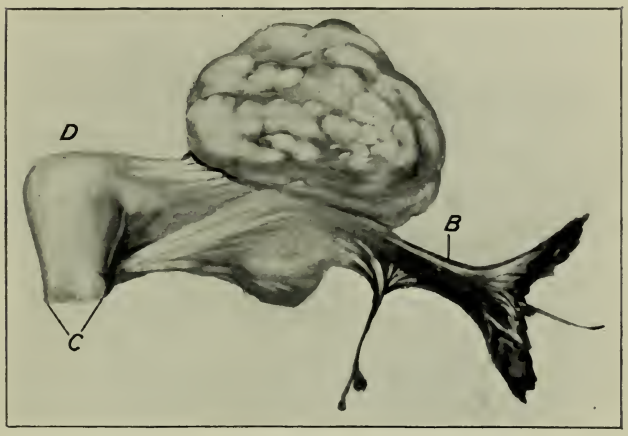


Fig. 1.

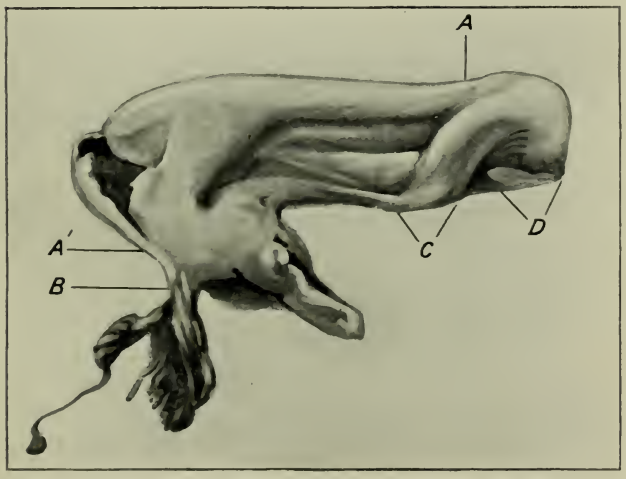


Fig. 2.

Illustrating Dr. Cuthbert Lockyer's specimen of Appendages Removed from an Epileptic Patient.

Adlard & Son, Impr.

The cornu uteri is a solid block of muscle-tissue measuring $\frac{5}{8}$ inch in the vertical and $\frac{3}{4}$ inch in the transverse diameter. To its outer and anterior aspect is given off the round ligament, which is $\frac{3}{8}$ inch in width. The Müllerian duct is not represented except by the cornu uteri and the fimbriæ attached to the outer pole of the ovary, and these two Müllerian structures are separated by the space, $1\frac{3}{4}$ inches. The right ovary is an oval, well-formed body, measuring $1 \times 1\frac{3}{4}$ inches. On section it contains a small corpus luteum verum and several fragments of lutein tissue. Its surface is puckered and scarred. To its outer pole is attached a portion of Fallopian tube measuring $\frac{5}{8}$ inch in length, and having a pervious lumen. It terminates in well-developed fimbriæ, and to it is attached a stalked hydatid of Morgagni. The cornu uteri measures $\frac{3}{4}$ inch in length by $\frac{1}{2}$ inch in width. The round ligament is again very much hypertrophied, measuring rather more than $\frac{1}{4}$ inch in thickness (all measurements were taken after fixation in Kaiserling's solution). The uterine cornu and ovary are connected by a wide mesovarium. The distance from cornu to Fallopian tube is 1 inch. In this interval the Müllerian duct is apparently unrepresented.

Histology of the ovaries.—The left ovary: The tunica albuginea is much thickened. The cortex is denser than normal; it contains a vast number of primordial follicles and several cystic follicles are seen. Many corpora fibrosa are present; ovarian tissue extends right up to the cornu uteri, the cut surface running through the wall of a cystic follicle. There are no Wolffian remains amongst the blood-vessels of the hilum, but a granulosa-lined cyst is seen among the large vessels. The tissue surrounding the hilum vessels is very œdematous. There is no sign of lutein tissue in this ovary. The vessels at the hilum are much thickened. The right ovary: The albuginea is not thickened. The cortex is not denser than normal; it contains many primordial follicles closely huddled together. There are many granulosa-lined cysts, and one well-developed but small corpus luteum verum of menstruation.

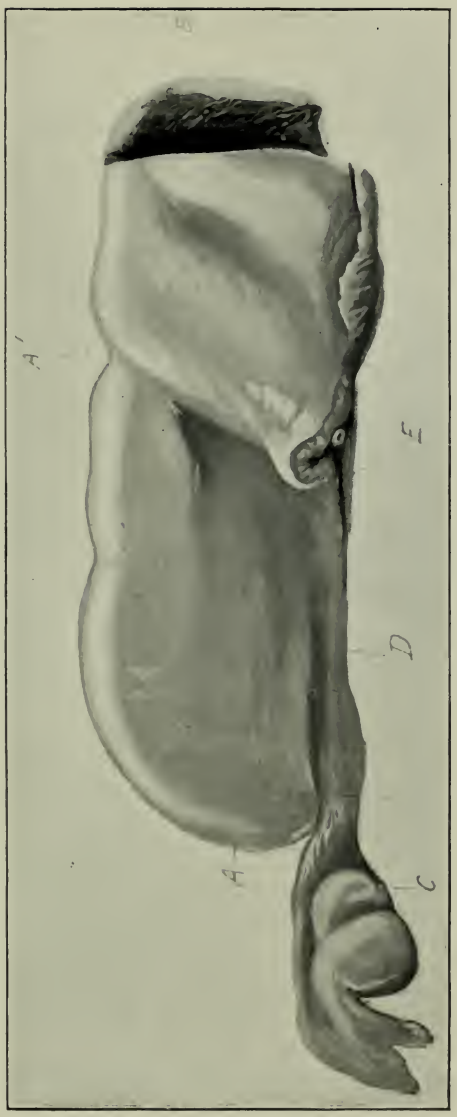
There is also a large amount of yellow tissue surrounding a corpus albicans. That both these ovaries were functional is beyond doubt.

By the courtesy of Mr. H. F. Waterhouse I am able to show another specimen demonstrating the same maldevelopment of the Fallopian tube in association with a uterus bicornis. The specimen was removed from the inguinal canal prior to radical cure for hernia. It lay partly in the canal and partly outside the external abdominal ring; the cornu, which remained, had the size of a normal uterus. In this specimen the uterine cornu measures 1 inch in width by $1\frac{1}{4}$ inches in length; it contains a rhomboidal cavity lined by a rugose membrane. The round ligament is nearly 1 inch in width. The ovary is 3 inches in length by 1 inch in width. It is much flattened out, and on section contains a few small cysts and shows a uniformly fibrotic surface. To its outer pole is attached the outer extremity of the Fallopian tube; it has a lumen and the fimbriæ are perfect. Its attached end is curled upon itself and appears to terminate quite bluntly. Between this and the uterine cornu—a distance of about 3 inches—nothing can be seen to represent the Müllerian duct. The patient from whom this specimen was obtained was a single woman aged 27. The hernia had existed for fifteen years. It had gradually increased in size; no truss was ever worn; it had not caused pain until six months before operation, when the patient experienced colicky pains, confined to the swelling in the right groin. During the same period the swelling had enlarged to the size of a hen's egg. On admission it formed a rounded mass in the position of the external abdominal ring; it was, in fact, a right-sided bubonocele. On opening up the inguinal canal the ovary, uterine cornu, and portion of Fallopian tube were found lying in a "long unilocular sac with a very thin wall." The patient was admitted into Charing Cross Hospital on July 11th and discharged on August 4th, 1905. The situation of the Müllerian defect as far

DESCRIPTION OF PLATE V.

Illustrating Dr. Cuthbert Lockyer's specimen of Appendages removed from a case of Right Inguinal Hernia showing partial Deficiency of the Müllerian Duct.

A–A′. Elongated flattened ovary.
B. Cornu uteri.
C. Blind end of pervious tube.
D. Mesovarium.
E. Round ligament.



Illustrating Dr. Cuthbert Lockyer's specimen of Appendages Removed from a Case of Right Inguinal Hernia showing Partial Deficiency of the Müllerian Duct.

Adlard & Son, Imp'.

as the Fallopian tubes are concerned is identical in the three specimens I am showing. In neither case is there any naked-eye trace of the tubes between their fimbriated ends and the uterine cornua. Thinking that the tube might be represented by a fibrous cord in the mesovarian, I have cut transverse sections of the latter in each case, but have not succeeded in finding any trace of the duct either as a fibrous or a canalised structure.

When I examined Mr. Waterhouse's specimen at the time of its removal (August, 1905) I concluded that the outer end of the tube had been strangulated and divided in the hernial sac, but such was obviously not the case, as the cornu shows no evidence of a tubal stump; moreover in Dr. Routh's case such a doubt is entirely out of court, as the appendages were never herniated, and the structures on the right side lay in their proper position, with the ovary occupying the fossa ovarica. In a letter I have received from Dr. J. W. Ballantyne on the subject he draws my attention to a case of congenital absence of the outer two thirds of the right tube in a case of tuberculosis of the genital organs, with ovaries present, which he published with the late Dr. J. D. Williams in the 'British Medical Journal,' January 17th and 24th, 1891. Dr. Ballantyne goes on to say: "Your case is interesting on account of the situation of the defect, viz. between the upper and lower parts of the Müllerian duct. The only similar condition I can think of is the atresia of the intestine which we sometimes find in new-born infants, separating one patent part of the bowel from another. The defect in the tubes, with the presence of the ovaries, is, of course, explicable by the difference in origin of these structures embryologically. The persistence of a fœtal state of the ovaries (multiplicity of follicles) to my mind shows, however, that their development also was hindered in some way; this may either have been due to a common cause which prevented the development of the tubes and hindered that of the ovaries or to the associated defect of the tubes reacting upon the ovaries. It seems to me that

the method of development of the tubes, uterus, and vagina from the Müllerian ducts which is commonly accepted in embryological text-books need not necessarily be exact; it has been shown that other structures may enter into the formation of the lower end of the vagina (Wolffian bulbs, etc.), and it may be that your cases give us a hint that there may be some independence also of the formation of the outer ends of the Fallopian tubes. I lay it down as an axiom for myself that when the existing views of embryology do not serve to explain an anomaly it is time to challenge the correctness of the embryological views. Not once or twice have teratological specimens caused a revision of embryological dicta, and will do so again. I hold that all specimens of teratology can be explained as disordered embryology, and where the explanation is not obvious I say embryology calls for revision."

Robert Meyer, in his article "Zür Entstehung des doppelten Uterus" ('Zeits. für Geburts.,' vol. xxxviii, p. 16), describes the internal genitalia of a female fœtus at the eighth month of life. He noted that the round ligaments were very thick and short, measuring from before back ·3 cm. and ·8 cm. from side to side. After a course of 3 cm. they sank into the parietal peritoneum and became lost in the inguinal canal. The upper part of the broad ligament corresponding to the mesosalpinx was very abnormal. Its root extended upwards along the psoas muscle as far as the lower pole of the kidney, from whence the infundibulo-pelvic ligament was given off. He says: "We have here a uterus which is single below and bifid above, the two horns of which are lateri-flected and overlie the pelvic brim, where they are held in position, both above and behind, by the ligamenta lata which have been raised completely into the large pelvis, whilst on either side the horns are laterally secured by the enormously strong ligamenta rotunda. Are these abnormal ligaments the cause of the duplicity? It is easy to accept that the horns have been held fast from the beginning by

the ligaments, and that their union was impossible." Meyer asks the further question, "Is the ligamentum latum or the ligamentum rotundum, or both, responsible for the non-fusion of the horns?" In the present instance there was no noticeable high insertion of the broad ligament, but, as already mentioned, the size of the ligamentum rotundum is out of all proportion to that of the cornu to which it is attached. This abnormality is bilateral and seems sufficient to fully account for the wide separation of the tiny, solid, non-canalised cornua, but inasmuch as there is arrested development of Müller's duct between the fimbriated end of the tube and the cornu uteri, and again beyond the cornua, it seems necessary to recognise the "defective nutrition" theory in order to fully account for this abnormality. Whether such defective nutrition, with its consequent Müllerian aplasia, is secondary to hypertrophy and hyperplasia of the round ligament I cannot say, but it is to be observed that the upper part of the duct, which is least likely to have its position influenced by the traction of the round ligament, is the only part which has developed satisfactorily.

It is very interesting to find that Meyer's observation on the round ligament in the fœtus is borne out in the case of a woman, aged 28, in whom there had been no pelvic inflammation and, of course, no gestation to account for the hypertrophy of the ligaments. The same defect is also seen in the appendages of Mr. Waterhouse's case, but here the cornua had fused in their lower part, and the one removed had a cavity lined by delicate fibrinous material, but no trace of mucous membrane could be seen microscopically. The round ligament in this instance is nearly one inch wide; the woman had never been pregnant, and gave no history of pelvic inflammation, therefore it can only be inferred that its thickness is a congenital error. No opportunity was afforded in this instance of observing the size of the left ligamentum rotundum, but inasmuch as I noted upon bimanual examination, made

after operation, that the uterus was central in position and well developed, it seems reasonable to conclude that it is not hypertrophied since no undue traction has taken place on the left side.

Pfannenstiel has noted an increase in the lateral pelvic measurements in uterus bicornis; unfortunately, I did not measure the pelvis in either of these two cases, but it is obvious that in the case where we found the cornu separated by the entire width of the true pelvis any increase in width of the latter, even if it existed, would not explain such wide separation. In short, round ligament hyperplasia associated with Müllerian duct aplasia will in each case explain the anomaly.

Dr. Amand Routh said he was, as a rule, strongly opposed to öophorectomy for pelvic or general neuroses, but this seemed a case where it might safely be done, as the uterus, being apparently absent, causing primary amenorrhœa, there was no function which the removal of the ovaries would interfere with. The patient and her friends were most anxious to have the operation performed, and it was strongly advised by Dr. F. W. Mott. He hoped the result would be beneficial.

Mr. Eastes asked what effect had been produced by the operation upon the epileptic seizures.

A CASE OF UTERUS UNICORNIS AND RIGHT APPENDAGES REMOVED FROM AN EPILEPTIC SUBJECT.

Shown by Dr. Blacker.

Dr. Blacker showed the drawing of a specimen of a uterus unicornis. In the year 1901 he had operated on a young woman aged 21, who had suffered for some years from epileptic fits occurring more or less regularly at monthy intervals. She had never menstruated, and the fits were accompanied by a good deal of mental excitement in the form of marked eroticism. Medical treatment had been attended with little success. On examination, the patient was a well-developed woman, as far as external appearances went. The vagina, however, was only represented

by a depression about half an inch in depth, no doubt the uro-genital sinus, the remainder of the vagina being entirely absent. The mammæ were well developed. On rectal examination the ovaries were thought to be present and the uterus absent. As the girl was unable to do any work as a result of the attacks, and as they occurred with fair regularity at monthly intervals, it was decided after consultation with Dr. Beevor to remove the uterus and ovaries.

This decision was based on the hope that the operation might have some effect in diminishing the frequency of the attacks and in controlling to some extent the erotic

Uterus unicornis and right appendages.

excitement which accompanied them. On opening the abdomen it was found that there was a uterus unicornis present with a very well developed right ovary and Fallopian tube. The left broad ligament and the left appendages were entirely wanting as far as could be made out at the operation. A small fold of peritoneum passed from the supra-vaginal portion of the cervix on the left side to the side wall of the pelvis, and evidently represented the left broad ligament. This was purely rudimentary, and contained no recognisable structures. The uterus was removed by subtotal hysterectomy, with the appendages of the right side. The patient made a good recovery from the operation. Examination of the structures removed

showed that they consisted of a well-developed uterus unicornis, with a normal tube and large ovary. There is, however, no uterine cavity, sections of the organ proving that this is entirely wanting.

The condition of the patient appeared undoubtedly to improve after the operation. She had no fit for eight weeks, and after this they occurred with less frequency and at longer intervals. From Easter, 1902, until just before Christmas of the same year she had no fit at all. Her friends were of opinion that her general health was decidedly better, and she was able to do some work. Unfortunately, in February, 1903, while sitting outside on the ledge cleaning a window, she fell a distance of some sixty feet and was killed. No doubt the fall was the result of an epileptic seizure. The attempt to treat cases of epilepsy by the removal of the ovaries can very rarely be justifiable. In this particular case the monthly recurrence of the attacks and the associated excited erotic state made it possible that öophorectomy might give some relief, and the result seems to show that this belief was well founded. It can happen, however, very rarely that such a trio of conditions will be found in the same patient, namely epileptic attacks at more or less regular monthly intervals, with mental disturbance, and absence of the vagina, and the justification for such an operation very seldom therefore will occur.

THREE CASES OF ADENO-MYOMA UTERI.

(With Plates VI, VII, VIII, IX.)

By Cuthbert Lockyer, M.D., F.R.C.S.

The tumour spoken of by Cullen as adeno-myoma uteri diffusum benignum is, in my experience, a rare growth. In the examination of about 500 solid tumours of the uterus obtained from the Samaritan, Charing Cross, and Plaistow Hospitals, and also from private sources, I have

only met with four cases. One came from a private source and was sent to me for a pathological report (the clinical data were not disclosed), the second was removed by Dr. Amand Routh, whilst the remaining two were obtained from women who came to my out-patient clinic at St. Mary's Hospital for Women and Children, Plaistow. As all the clinical as well as the pathological data of the last three cases are at my disposal I have deemed them worthy of being placed on record.

Case 1.—I am indebted to Dr. Amand Routh for his kindness in allowing me to publish this case and for providing the following clinical facts:

Mrs. W. L—, aged 45, was a patient of Dr. R. H. F. Routh, of Bridgwater, Somerset. She was first seen by Dr. Amand Routh on December 9th, 1896, when he made the following note: "Married twenty-one years, one child fourteen and a half years ago, no abortions. Catamenia began at fourteen and a half years of age, it was regular at first; there was dysmenorrhœa, beginning twenty-four hours before the flow and lasting two days. The pain during menstruation was in the right ovarian region. Since birth of the child the patient had suffered from menorrhagia, backache, and right ovarian pain." On examination Dr. Routh found the sound-measurement of the uterus to be 4½ inches; bulging to the right there was a (? fibroid) tumour. As the organ was somewhat retroverted the latter was reduced and a Hodge's pessary inserted. Cardiac hypertrophy and a mitral systolic bruit were noted. In October, 1898, the uterus was curetted for continuous hæmorrhage, which had lasted for four months. The lining membrane of the cavity of the uterus was found to be roughened and the diagnosis of fungous endometritis with *hard* fibroid uterus was made. Subsequent to the above operation there was relief from the hæmorrhage for one month, after which the patient was as bad as before.

On August 2nd, 1901, as hæmorrhage had been

almost continuous for nearly four years, Dr. Rutherford of Taunton and Dr. R. H. F. Routh of Bridgwater acquiesced in the idea that hysterectomy should be performed forthwith. Accordingly Dr. Amand Routh removed the uterus by vaginal hysterectomy on the above date. Convalescence was uneventful and the patient has been quite well since the operation.

The specimen consists of two portions, the uterus having been divided at the level of the internal os. Taking the two pieces together, the uterus measures 5½ inches from above down and 3 inches from side to side at its widest part. The museum preparation represents the posterior half of the uterus, obtained by transverse (side to side) section. The wall is 2 inches in thickness, and is occupied by a diffuse honeycombed growth with cavities or cysts measuring ⅜ inch in diameter. At the internal os the canal divides and runs upwards towards the cornua on either side of the growth as seen in uterus septus. The anterior half of the uterine body showed the same honeycomb-like structure in the centre with the two limbs of the bifid cavity on either side, so that the growth obviously occupies the median septum of a uterus subseptus (see Plate VI). The cervix presents a cystic space of the size of a cob-nut; this bulged, in the recent state, towards the cervical canal; it contained clear, syrupy fluid, like fresh honey. The same kind of glandular secretion exuded from the cystic spaces seen in the body-growth when this was cut across in the recent state. Microscopical examination of the latter shows that the cystic spaces are lined by degenerated columnar epithelium whilst the solid parts around the cysts present tubules surrounded by a lymphadenoid stroma and contained in alveolar spaces amidst the muscle-trabeculæ. The nuclei of the young stroma cells stain deeply with logwood, and show up prominently as a circular blue patch surrounded by the pink eosin-stained muscle on naked-eye examination of the slide. Further, thin sections of the solid portion of the growth reveal the glandular areas as dark bodies

Illustrating Dr. CUTHBERT LOCKYER's specimen (Case 1) of Adenomyoma Uteri undergoing Extensive Cystic Change and in one area becoming Carcinomatous.

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of the size of a pin's head, and larger when viewed by transmitted light, and these areas appear as jelly-like, degenerate patches when viewed by reflected light.

Case 2.—This patient was sent to Plaistow by Dr. Bluck of Southend; she was a single woman, aged 48. One sister had died of "consumption" at the age of forty-five years; there was no other known case of phthisis in the family. The patient complained of an offensive discharge which she stated was passed *per vaginam* and *per rectum*. Her periods, which began at the age of eleven, had always been irregular and scanty excepting for the one previous to the time at which I first saw her. On this occasion the flow had lasted for fourteen days; one diaper was used daily. Dysmenorrhœa was never complained of; she had never been anæmic. The woman had been perfectly well until May, 1905, when she had an attack of pelvic inflammation for which she remained in bed for five week. During the latter part of this illness "an abscess broke internally" and there followed a discharge of pus from the rectum and the vagina. These discharges continued more or less until her admission into Plaistow Hospital, on October 25th, 1905.

Three weeks before admission the patient was seized with a severe attack of pain in the left loin when passing a motion, and this pain persisted, being at times very intense.

Ever since the illness in May, 1905, constipation had been very obstinate, amounting to obstruction, for three weeks together. At no time had blood been noticed in the stools. Defæcation was always attended with great pain in the left loin. Micturition was very painful during the attack of pelvic inflammation, but the dysuria subsided after convalescence.

On examination the patient appeared fairly well nourished. The abdomen was distended and the whole of the large bowel was filled by fæcal masses. There was a hard, fixed mass rising out of the pelvis to within a finger's breadth of the umbilicus. It was connected with

the uterus and occupied chiefly the left side of the lower abdomen. Bimanually this swelling was found to be continuous with the cervix uteri, which felt normal. The mass extended out into the left broad ligament, where it was fixed. No sinus could be found *per vaginam*. *Per rectum* a fish-bone about $1\frac{1}{4}$ inches long was found sticking into the mucous membrane, but again no sinus was discovered. On admission the patient's temperature was normal and I kept her under observation from October 25th to November 2nd in order to ascertain if discharge of any kind still escaped from some undiscoverable sinus; during this time, however, nothing of a purulent nature was seen and the temperature remained normal. The bowels, which had not acted for twenty-one days prior to admission, were cleared out with the greatest difficulty, and having satisfied myself that there was no purulent cavity which could be drained by the pouch of Douglas, I opened the abdomen on November 2nd, 1905. The omentum was found adherent to the pelvic viscera; the sigmoid flexure ran over the top of a cystic mass lying in the left pelvis and over the fundus of the enlarged uterus, which reached above the sacral promontory; it then entered the true pelvis on the right side behind the broad ligament. This part of the bowel, which was enormously thickened, was dissected off the pelvic structures and held back, whilst I endeavoured to find some way into the pelvis between the sacrum and uterus. In the attempt my finger opened an abscess which lay behind and to the left of the uterus, and which, as I afterwards found, adhered to the rectum low down.

As the entire anatomy of the pelvis was altered and it seemed impossible to secure any structure by clamp or ligature, I divided the uterus in the mid-line, having first stripped off the bladder anteriorly. The uterine arteries were secured from below; with the vagina opened the utero-sacral folds and posterior half of the vagina were easily secured. The right half of the uterus gave no trouble in removal, but the left half was more difficult to

deal with owing to the presence of an abscess continuous with the left Fallopian tube. Finally I succeeded in removing the uterus and abscess *en masse*. On examining the rectum and sigmoid, what I took to be inflammatory induration appeared to be a growth of stony hardness. The bowel from the middle part of the sigmoid to the mid-portion of the rectum was enormously thickened and hard; accordingly this was removed with the intention of uniting the bowel by end-to-end suture. The latter procedure was found impracticable as the lower (rectal) end was so stenosed by dense white fibrous tissue that accurate suturing was out of the question, and, moreover, the stricture would have caused trouble hereafter. The lower end of the bowel was, therefore, closed and dropped back into the pelvis. The latter was packed with gauze led out through the vagina and the anterior peritoneum of the bladder sewn to the peritoneum of the posterior abdominal wall above the sacral promontory, thus shutting off the entire true pelvis. The cut end of the sigmoid was fixed to the upper part of the central abdominal wound as an artificial anus, and the abdomen closed by three layers of sutures. The operation was difficult; it took two hours to complete. The patient stood the ordeal well. The pulse beats were 96 per minute as she left the table. The bowels acted on the fifth day after operation until when the temperature kept normal, but afterwards the lower edge of the bowel became retracted below the skin-surface of the wound, and the latter became infected and a sinus formed between the skin and sheath of the rectus. For this a counter-opening was made through the healed scar at the extreme lower angle of the wound and a drainage-tube was inserted. This caused a slight rise of temperature from time to time, but subsequently closed, and for the last eighteen days of convalescence the temperature was normal. The rectum was washed out daily with boric acid lotion; there was a vaginal discharge for ten days after the operation, but except for the infection of the

abdominal wound around the artificial anus there was no trouble during convalescence. The patient remained in hospital six weeks and left with the sinus healed and feeling quite well. By letter received March 5th, 1906, she reports herself as "keeping fairly well." The museum preparation consists of the uterus with portions of the Fallopian tubes and the right ovary.

The uterus (see Plate VII) is a pear-shaped body measuring 3½ inches from fundus to external os, 2¾ inches from side to side, and 3 inches from before back at its thickest part. On section, the cavity presents as a narrow, slit-like continuation of the cervical canal; it lies anteriorly, being ¾ inch from the front and 2 inches from the posterior surface of the uterus. The posterior uterine wall is much thickened and hardened by a diffuse non-encapsulated growth, the surface of which is paler and more gnarled than that of the unaltered muscle. This growth extends below to the internal os; above and behind it reaches to the peritoneal coat of the uterus. Anteriorly there is a band of unaltered uterine muscle between the growth and the mucous membrane of the cavity of the uterus. The latter is smooth, and in no degree thickened. The anterior wall of the uterus is occupied by a small interstitial fibromyoma, the cut surface of which is much paler in colour than the large growth in the posterior wall. The sections of the latter are taken from the posterior aspect near the peritoneum. They show gland-tubules lined by a single layer of non-ciliated columnar epithelium lying in spaces between muscular fasciculi. Between the tubules and the muscle there is a collection of round and spindle cells surrounding the tubules on all sides. The cells run off and fill up adjacent lymphatic clefts after the manner of a round-celled infiltration in an inflammatory process. The halo of young connective-tissue cells is a most constant accompaniment of the tubules, whether the latter exists in clusters within an alveolus or whether they appear singly; in fact, this feature serves in a doubtful case as a distinguishing point in the differential diagnosis between

Illustrating Dr. CUTHBERT LOCKYER'S specimen (Case 2) of Localised Adenomyoma Uteri associated with Tuberculous Disease of the Fallopian Tubes.

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diffuse adeno-myoma and simple glandular inclusions which are to be met with in every type of fibro-myoma, whether submucous, interstitial, or even subperitoneal.

The Fallopian tube of the right side is thickened by chronic tuberculous salpingitis; that on the left is similarly infected; it has formed a large tubo-ovarian abscess with which the ovary has become so involved as to be indistinguishable. In its walls, as in the tube of the opposite side, there are numerous giant-celled systems of tuberculous origin. The left ovary shows no sign of tuberculous invasion, nor does the endometrium of the cavum uteri, neither does the cervix. The portion of large bowel removed measures 7 inches. Its wall is dense and gristle-like, measuring $\frac{5}{8}$ inch in thickness. The microscope shows that the thickening is due to cicatricial tissue, and not to new growth.

Case 3.—The patient was a married woman, aged 29. She was first seen by me at St. Mary's Hospital, Plaistow, on January 3rd, 1906, when she complained of having lost blood continually for the last nine weeks, also of intense pain in the pelvic region and a swelling in the lower part of the abdomen. The history she gave was as follows: Married three and a half years. No children, no miscarriage. Menstruation started at twelve and a half years of age; it was regular every four weeks, and lasted for four days, then ceased for a day and returned again for another three days; before marriage six to eight diapers were used, but since then twelve to fourteen towels were necessary. Dysmenorrhœa had always been a marked symptom. It began before the flow, reached its height during the first two days, and gradually subsided, so that it ceased before the period ended. It was noteworthy that the pain had been worse since marriage. The present illness started nine weeks ago with "stabbing pain in the back and lower part of the stomach." The pelvic pain radiated over the right groin and right hip. It always became worse towards the end of the day and

necessitated rest in the recumbent posture. For the past nine weeks there had been a continual daily loss of blood, the patient having had to use three diapers daily, and on December 21st, 1905, she flooded and was very ill in consequence. There was no family history of phthisis or cancer. On examination, I found the patient well nourished; there was a central tumour rising up out of the pelvis midway to the umbilicus, it was fixed and tender; bimanually the mass was continuous with the cervix and a large growth could be felt high up in the pouch of Douglas. The uterus was bleeding freely at the time of examination. I made the diagnosis of fibro-myoma uteri with a submucous portion of the growth causing hæmorrhage, and sent the patient into Dr. Routh's gynæcological ward at Charing Cross Hospital for abdominal section. Under anæsthesia, Dr. Routh made an examination. He found that the sound passed five inches into the middle of the tumour; the bulging posteriorly was thought to be a fibroid outgrowth. But Dr. Routh raised the question of the existence of an independent ovarian tumour. He further noticed a peculiar sickly odour in the sanious discharge, and as the latter was very shreddy the presence of gestation products was entertained; the cavity was, therefore, curetted after cervical dilatation. Nothing at all resembling decidua or placenta could be found and laparotomy was now decided upon.

After the curettage on January 18th, 1905, the discharge remained offensive and the patient suffered for the next ten days from pain and pyrexia. The abdomen became distended and tender, there was obvious pelvic peritonitis, and the tumour became less distinctly palpable. The body which had been detected high up in the pouch of Douglas came lower down and was more distinctly felt *per vaginam*. It was now thought to be an ovarian cyst with a twisted pedicle. After the pyrexia had subsided for two days, Dr. Routh, assisted by Mr. Stanley Colyer and myself, opened the abdomen. The intestines were adherent

to the uterus, as was also a large pale soft cyst which lay in the posterior half of the true pelvis. The broad ligaments were thickened and the tubes and ovaries matted together on either side. The uterus was too fixed in the pelvis to be dragged up. The upper part of the right broad ligament was first divided, the bladder was then stripped down, the right uterine artery secured, and whilst left lateral traction was made on the uterus the right broad ligament was clamped and divided. By the insertion of a vulsellum into the right cornu of the uterus, in order to pull it over to the left, an intra-mural abscess was opened and the uterine muscle tore away like friable cartilage. The discharge was peculiar: it was glairy and of a greenish-brown colour; it soiled the abdominal mattress but did not come into contact with the peritoneum; the area of torn tissue was immediately swabbed with 1 in 1000 perchloride of mercury solution. The uterus was amputated higher up than usual—above the level of the internal os. The stump being bulky, its central core was cut away and the canal swabbed with mercury solution. The cystic swelling was then easily removed from the right appendages. The left ovary was sclerosed; it was left *in situ*. The wound-area was closed by continuous peritoneal sutures. Two pints of saline were poured into the abdominal cavity, and the same quantity had been subcutaneously injected during the operation. The abdominal wound was closed by silkworm sutures inserted through the entire thickness of the walls, but in addition the peritoneum and the sheath of the rectus were sewn independently of each other by continuous catgut sutures. The operation took one hour and forty minutes to complete. The patient was very collapsed and required continuous subcutaneous saline injections after the operation.

Five days later the lower part of the wound suppurated and the temperature rose to 104°. Some of the lower fishing-gut stitches were removed and offensive pus escaped. Fomentations were applied. Mr. Leatham reported that the pus contained the *Bacillus pyocyaneus*

and a spore-bearing bacillus. The sinus formed at the lower angle of the wound was found to lead down to the right side of the true pelvis, which was the spot where the glairy fluid escaped from the uterus during the operation. The patient is still in hospital (March 2nd, 1906); the wound is cleaner, but the sinus has not yet closed.

The specimen (see Plate VIII) consists of the enlarged uterus and an ovarian cyst. The latter is a dermoid of the size of an emu's egg. The uterus was amputated very high up, the cut surface running through the endometrium. At the site of amputation the uterus measures 2½ inches across. From above down the uterus measures 3½ inches. The wall was very thick and friable, measuring 1¼ inches in thickness near the right cornu. The endometrium presents a smooth surface, but opening out on to it there are small stomata resembling in miniature those seen in Case 1. These round holes are especially numerous at the right cornu, where they can be traced into the "abscess" which broke posteriorly during the operation. The sinuses everywhere surround the interstitial part of the right tube and appear to open into it. Through one of these apertures, which is situated on the posterior wall, three tiny polypi project into the cavity of the uterus. This pit, from the bottom of which these tiny growths spring, admits a probe for a distance of ¼ inch. A glairy fluid similar to that expressed from the right cornu uteri during operation could be squeezed from these sinuses into the cavum uteri when the latter was first opened up. Unfortunately, this was not examined bacteriologically or microscopically, but it had all the appearances of a glandular secretion mixed with and stained by glandular *débris*. The free part of the right Fallopian tube is not much enlarged and its lumen is not dilated. The left tube is thickened, but its lumen is not dilated nor purulent. Sections (see Plate IX) have been prepared from the cystic area of the uterine wall. The cysts show a degenerating epithelial lining, and some contain fragments of epithelium lying free in the lumen.

Illustrating Dr. CUTHBERT LOCKYER'S specimen (Case 3) of Diffuse Adenomyoma Uteri undergoing Cystic Degeneration.

The microscopical drawing (Plate IX) was prepared from this specimen.

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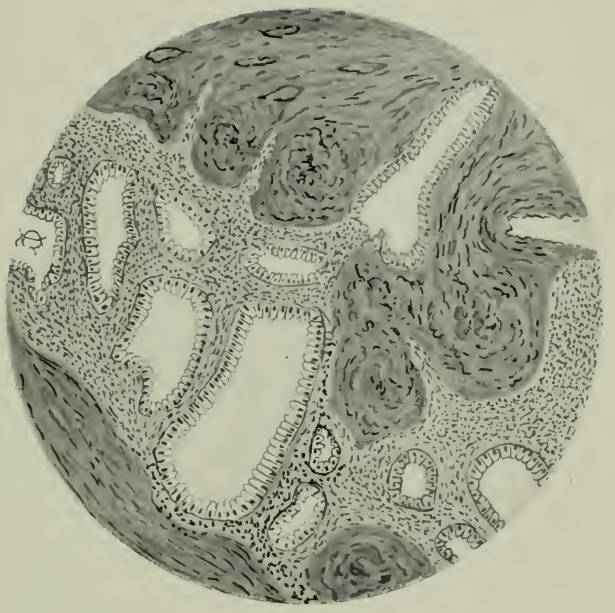

Illustrating the Microscopical Characters of Dr. Cuthbert Lockyer's specimen (Plate VIII).

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The muscle-tissue is invaded by aggregations of tubules lined by a non-ciliated single layer of epithelium, and surrounded by a zone of lymphoid-looking tissue consisting of round and oval cells. Microscopically the Fallopian tubes show some fibrosis of their walls and turgescence of the plicæ of the mucosa; there is no evidence of tuberculous disease such as was present in Case 2. I am again indebted to Dr. Amand Routh for permission to publish the notes made of this case subsequent to sending the patient into his ward at Charing Cross Hospital.

N.B.—I saw this patient on June 28th. There was some thickening to the left of the cervical stump and constipation was complained of. Her general health was good.

Dr. Frank E. Taylor considered that Dr. Lockyer's specimens showed very typically the characteristic structure—both macroscopic and microscopic—of adeno-myoma of the uterus. They suggested three points of interest. The first referred to the clinical history and diagnosis of this condition. Among nearly four hundred fibroids which he had examined he had found five cases of adeno-myoma of the uterus, and in all these cases the diagnosis previous to operation was that of uterine fibroid. He asked Dr. Lockyer what diagnosis was made prior to operation in his cases. The second point was the question of the origin and histogenesis of these tumours. According to von Recklinghausen, to whom we owed most of our knowledge of this subject, remnants of the Wolffian bodies were the source of these neoplasms. Dr. Taylor's own specimens, however, were not in accord with this view, as their origin could definitely be traced to the endometrium. Cullen and others also upheld this view. If Dr. Lockyer's opinion was correct, that in one of his cases the adeno-myoma had arisen in the septum of a septate uterus, it must have developed from the endometrium of the septum, as no Wolffian remnants could be present in this situation. They were most commonly found in the so-called "tubal angle" of the uterus. In one of Dr Lockyer's sections, too, the endometrium was present, and in this case the etiological relationship between the endometrium and the tumour could readily be made out. Unfortunately, no endometrium was present in the remaining sections, so that this question could not be investigated. The third point of interest was the relationship of adeno-myoma to carcinoma. A carcinomatous development could be brought about in an adeno-myoma by the occurrence of an atypical proliferation of its epithelial elements, as in a case recorded by

Cullen. The presence, in places, of solid columns of epithelial cells in the place of glandular loculi lined by a single-layered columnar epithelium in one of Dr. Lockyer's sections suggested the possibility of an early carcinomatous development in that tumour. Dr. Taylor proposed that Dr. Lockyer's specimens and sections should be submitted to the Pathology Committee for further examination, with special reference to the question of the seat of origin of the adeno-myomatous growths and to the possibility of an early carcinomatous development in one of them.

The specimen (Case 3) with doubtfully malignant spot was referred to the Pathology Committee (*see p. 128*).

CARCINOMA OF THE OVARY.

Shown by Dr. Walter Tate.

This specimen was removed from a young girl, aged 19, unmarried. The patient had enjoyed good health till a fortnight before, when she had an attack of pain in the lower part of the abdomen, and had to keep in bed. An examination was made under anæsthesia and a solid-feeling tumour was discovered filling up the pelvis, and reaching up nearly to the umbilicus. The tumour was quite mobile, and the uterus was displaced to the right. The tumour, which grew from the left ovary, was removed by abdominal section on March 3rd, 1906. There were no adhesions, but a few ounces of ascitic fluid were present. As the tumour was obviously malignant, the opposite ovary, which contained one or two very small cysts only, was removed. The tumour removed measured 5 × 4 × 4 inches. Over the surface were seen numerous veins. On section of the tumour it presented a homogeneous surface with no evidence of any whorled arrangement of fibres. Moreover there was no sign of any capsule of ovarian tissue such as is seen in a benign growth of the ovary. Microscopically the tumour proved to be a spheroidal-celled carcinoma.

Dr. Boxall asked Dr. Tate whether, in his view, the sudden onset of trouble might have been caused by the tumour becoming impacted in the pelvis.

PERITONITIS AND THE *STAPHYLOCOCCUS ALBUS*.

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(Received February 5th, 1906.)

Abstract.

Referring to a view which the author has previously advocated,* namely, that inflammation and peritonitis may be aseptic processes, it is shown that Lord Lister distinctly stated that a certain amount of inflammation, as caused by direct irritation, is essential to primary union."†

Turning to the lectures of Mr. Dudgeon and Mr. Sargent on the Bacteriology of Peritonitis,‡ it is pointed out that these observers found the *Staphylococcus albus* in the peritoneal sac in almost every variety of peritonitis, and invariably in the intra-peritoneal blood-clot associated with the rupture of extra-uterine fœtation sacs; they showed that this coccus was frequently in the peritoneal sac when there was no evidence of its presence except that of the microscope, or of culture investigations, and that it was an organism of very low virulence; they nevertheless came to the conclusion that "the febrile disturbances so fre-

* 'Med. Soc. Trans.,' vol. xvi; 'Scot. Med. and Surg. Journ.,' December, 1905.

† 'Phil. Trans.,' vol. cxlviii, p. 700.

‡ "The Erasmus Wilson Lectures," 'The Lancet,' 1905, vol. i, February 25th, March 4th, and March 11th.

quently found after effusion of blood into the peritoneal cavity, are due to the presence of this organism."*

It is maintained that the conclusion that the *S. albus* was the cause of the well-marked inflammation attributed to it can be upheld only if it is already regarded as proved that a micro-organism must be present before inflammation can develop. Attention is drawn to the fact that Mr. Dudgeon and Mr. Sargent found in cases of strangulated hernia that "in thirty cases out of a total of forty-six, the intestines, which were in all stages of inflammation and congestion, were found to be sterile."†

The effects of torsion of its pedicle on an ovarian tumour are described, and Mr. Doran's observations‡ on the formation of adhesions between the stump of a ligatured ovarian pedicle and the adjacent broad ligament are referred to.

After considering the various possible methods of access to the peritoneal sac of the *S. albus*, its action when present there is discussed.

Mr. Dudgeon's and Mr. Sargent's statement is quoted to the effect that staphylococci show many grades of pathogenicity, and that "even the white staphylococci show all grades of pathogenic virulence." Dr. M. H. Gordon is also quoted as stating that "a differentiation far more elaborate than has yet been supposed to exist, naturally obtains amongst staphylococci."§

It is argued that a staphylococcus which is present invariably in intra-peritoneal blood clot, and may exist therein without pus formation for three months, is a different coccus from that which produces suppuration, and the evidence that this non-pyogenic coccus has any harmful effects is considered unconvincing.

Conclusions.

The following conclusions are arrived at:

1. That inflammation is a curative process bringing about union by first intention, producing a fresh blood supply to

* 'Lancet,' vol. i, 1905, p. 474.

† 'The Bacteriology of Peritonitis,' Arch. Constable and Co., p. 41.

‡ 'St. Bart.'s Hosp. Reports,' vol. xiii.

§ "Report on Some Characters by which Various Streptococci and Staphylococci are Differentiated and Identified," p. 93.

strangulated or ligatured tissues or to thin flaps, and causing a return to normal conditions by its characteristic restorative action whenever this is possible, and frequently in spite of the presence of micro-organisms.

2. That tissues in the peritoneal cavity dying because they have become separated from their natural connections (strangulated tumours, ligatured parts, and blood clot), can be revived only by the inflammatory process and by a consequent formation of adhesions; that there is no reason to suppose that micro-organisms are necessary to the production of these processes, and therefore that inflammation of the peritoneum may arise without the action of micro-organisms.

3. That, although practically all dangerous inflammations are septic, yet the science of bacteriology, in so far as it is connected with wounds, must be founded on views that recognise the possibility, or rather the constant occurrence, of inflammation in connection with aseptic injuries. This is the teaching of Lord Lister.

4. That when septic complications take place in a wound, the micro-organisms tend to interfere with the proper course of the inflammation which necessarily accompanies an injury.

5. It seems to be certain that a very small damage to tissues may enable slightly pathogenic or innocuous staphylococci to effect an entrance through apparently healthy epithelial surfaces, and perhaps in other ways. The condition is an undesirable and dangerous one, because a little more damage will enable a more powerfully pathogenic organism to invade the tissues, and when a sufficient degree of mischief arises, the most virulent organisms may enter and produce their various effects as if they were introduced through an incision.

6. It is suggested that surgical fever is due to peripheral stimuli, and that the theory that fever is necessarily caused by some substance circulating with the blood and acting on a heat centre is unsatisfactory, because by it the irritation which occurs in a wound, and which occurs all over the body in septic conditions, is entirely ignored as having any possible influence on the temperature.

On October 24th, 1905, I read a paper before the Royal

Medical and Chirurgical Society in which I advocated the view that inflammation and peritonitis may be, and often are, aseptic processes. I suggested that, in its simplest form, inflammation should be regarded as an exaggeration of the physiological actions whereby the normal tissues remove the products of decay that are constantly formed by them and that are developed in excess in any particular area that happens to be damaged. I urged that one of the chief objects of the inflammatory process is to provide for the preservation of vitality and for the restoration to health of damaged parts.

I argued that suppurative inflammation also consists of an exaggeration of normal physiological changes, by which there is induced such a collection of leucocytes in a damaged area that they, with the micro-organisms causing the complication, are thrown out of the tissues on to a free surface or into an abscess cavity in the form of pus.

In 1893, also, at the Medical Society, I advocated views which involved the possibility of the occurrence of an aseptic peritonitis,* and Sir Frederick Treves, a few months later in the Lettsomian Lectures,† addressed to the same Society, mentioned my previously published views as being different from those advocated by him.

It has so happened that my paper on this subject, published last October, was followed a week later by Sir Frederick Treves' address at Edinburgh, in which he again adopted, and still more emphatically, a view opposed to mine. He said that if the germs of disease can be kept out of the body "the aid of inflammation will be uncalled for." He added: "Such is the whole teaching of antisepticism," and he attributed this interpretation of "the teaching of antisepticism"‡ to Lord Lister.

I had, however, pointed out on October 24th, and I

* "Physiology of Death from Traumatic Fever," 'Med. Soc. Trans.,' vol. xvi.

† 'Med. Soc. Trans.,' vol. xvii.

‡ 'Brit. Med. Journ.,' vol. ii, 1905, p. 1252.

would again draw attention to the fact, that Lord Lister distinctly stated that "a certain amount of inflammation, as caused by direct irritation, is essential to primary union;* and, moreover, he defined the system of treatment which he introduced, not as being directed to the prevention of inflammation, but as consisting of "such management of a surgical case as shall effectually prevent the occurrence of putrefaction in the part concerned."†

This, Lord Lister's teaching, is definitely in favour of my view of the question. I believe that in all text-books on physiology it is taught that aseptic inflammations may and do arise. In text-books on surgery, also, although in many of them the condition is to some extent ignored, the view that an aseptic inflammation may exist is usually set forth.

I have never found any satisfactory evidence to the contrary, and it seems to me very difficult to understand how a highly-developed organism like the human body, with the infinity of chemical, vital, and mechanical changes constantly taking place in it, can be regarded as incapable of being stimulated to evidences of irritation except by the action of living micro-organisms.

Although I believe that the majority of the profession agrees that an aseptic inflammation may and constantly does arise, the fact that such a distinguished authority as Sir Frederick Treves maintains the contrary might be considered a sufficient excuse for a further discussion of this subject. Another reason for a return to this question at once is to be found in the fact that the record of an investigation into the bacteriology of peritonitis made by Mr. Leonard S. Dudgeon and Mr. Percy W. J. Sargent‡ seems to be regarded by these gentlemen as affording experimental proof that every peritonitis is caused by micro-organisms. They stated that there are "those who,

* 'Philosophical Transactions,' vol. cxlviii, p. 700.

† Introductory Lecture, University of Edinburgh, 1869.

‡ The Erasmus Wilson Lectures on "Peritonitis, a Bacteriological Study," by Leonard S. Dudgeon and Percy W. J. Sargent, 'Lancet,' February 25th, March 4th, and March 11th, 1905.

whilst admitting the bacterial origin of most diseases, are yet willing to accept the theory that peritonitis may, in certain conditions, be due to causes other than, and independent of, microbic infection. It is held that sterile fluids are capable, when introduced in sufficient quantities into the peritoneal cavity, of setting up a non-bacterial form of peritonitis, and to this variety the term 'chemical peritonitis' is applied."* On the contrary, however, Mr. Dudgeon and Mr. Sargent consider "that we have sufficient evidence to justify the opinion that chemical peritonitis does not exist, but that the cases to which the name has been given are really instances of an infection of the peritoneum with the *Staphylococcus albus*."† I propose to offer for consideration an examination of the evidence to this effect. The question at issue is one of supreme importance, for, as Sir Frederick Treves said, at Edinburgh, "the foundation of any system of medicine is a right appreciation of disease."‡

The Conditions in which the Staphylococcus Albus was found in the Peritoneum or in the Peritoneal Sac.

The *Staphylococcus albus* was found by Mr. Dudgeon and Mr. Sargent in "almost every variety of peritonitis." It was commonly found "in the peritoneal exudate at a distance from the site of origin of the acute lesion," and frequently "in the peritoneal cavity in 'the interval cases' of appendicitis."§ It was usually the first micro-organism to appear, and it was found "long after the other organisms had vanished." || It was invariably present in the blood-clot caused by rupture of extra-uterine fœtation sacs.

Professor W. H. Welch also found the *Staphylococcus*

* 'Lancet,' vol. i, 1905, p. 473.
† *Loc. cit.*, p. 474.
‡ 'Brit. Med. Journ.,' vol. ii, 1905, p. 1251.
§ 'Lancet,' vol. ii, 1905, p. 550.
|| *Loc. cit.*, p. 619.

albus in wounds healing by first intention, and, referring to his views, Messrs. Dudgeon and Sargent said that he "clearly shows in his lecture that the white staphylococcus plays a very important part in the healing of an aseptic wound, and still further, he refers to a case of peritonitis in which this coccus was found to play an important part." *

Professor Welch in the address referred to said† that it had been known since the early days of antiseptic surgery "that an aseptic wound is not necessarily free from bacteria"; and again, he said that there was "a gratifying harmony‡ between the views entertained by bacteriologists concerning the power of the living tissues to overcome a certain number of pyogenic bacteria." Professor Welch's experiments showed bacteria in thirty-one out of forty-five laparotomy wounds examined, and the *Staphylococcus albus* was found in nineteen of these. He stated that this staphylococcus "is found frequently in aseptic wounds. It may be the cause of disturbances, usually of a relatively slight degree, in the healing of wounds, especially when drainage-tubes are inserted. It is the most common cause of stitch abscesses in wounds treated antiseptically or aseptically."§

As I read the evidence, Professor Welch showed clearly that the part played by the *Staphylococcus albus* in the healing of a wound was very distinctly adverse to the progress of primary union. Whenever there was evidence that it acted in any way, it produced "disturbances" in the healing of wounds, and the only isolated case of peritonitis mentioned in the address referred to and in which the *Staphylococcus albus* was found was a fatal case.

In the lectures of Mr. Dudgeon and Mr. Sargent it was conclusively proved that the *Staphylococcus albus*

* 'Lancet,' vol. i, 1905, p. 550.

† 'Transactions of the Congress of American Physicians and Surgeons,' vol. ii, p. 18.

‡ *Loc. cit.*, pp. 15, 16.

§ *Loc. cit.*, p. 12.

is "an organism of very low virulence." * It was frequently found in the peritoneum without any evidence of peritonitis, and it never produced death or suppuration when introduced, in pure culture, into the peritoneal cavity of a guinea-pig. When injected into the peritoneum some twenty hours previous to an injection of the colon bacillus, the effects of the latter were greatly modified and were rendered much less severe, whilst control experiments in which the preliminary injection of the *Staphylococcus albus* was omitted invariably led to the death of the guinea-pig in twenty-four hours.† It was argued that "the *Staphylococcus albus*, when present in the peritoneal cavity in peritonitis, has, therefore, a definite function to perform and is not 'a mere skin contamination' as some would have us believe." ‡ The beneficial effect was attributed to the appearance of a large number of leucocytes in the peritoneal cavity on account of the action of the *Staphylococcus albus* and to a consequent increased power of resistance to more virulent micro-organisms. But if we turn to another part of the same lectures we read § that "many experimenters have shown that the natural resistance of the peritoneum to infection can be artificially increased. Issaeff in 1894 was the first to show that various sterile solutions previously injected into the peritoneal cavity of guinea-pigs could render that membrane more or less refractory to infection with certain microscopic organisms. In the following year Melsome and Cobbett, working with cultures of streptococci, showed that an immunity could be produced by working with successive minute inoculations. H. E. Durham obtained similar results in rabbits from preliminary injection of sterile fluids. More recently Salieri, and Miyake, working under Professor von Mikulicz, have confirmed these observations and succeeded in producing an artificial immunity in

* 'Lancet,' vol. i, 1905, p. 618.
† *Loc. cit.*, p. 550.
‡ *Loc. cit.*, p. 550.
§ *Loc. cit.*, p. 618.

animals by preliminary intra-peritoneal injections of sterile saline solution, nucleic acid, and other substances. The protection thus afforded is, as Durham pointed out, due in large measure, at any rate, to the appearance in the peritoneal exudate of certain phagocytic cells. The question arises whether this artificial protection has any counterpart in the natural events of peritonitis." * From this it seems quite certain that the "definite function" attributed to the *Staphylococcus albus* in the "natural events of peritonitis" may be performed by sterile fluids, and it is not shown that the *Staphylococcus albus* causes more irritation than the sterile fluids do.

Inflammation in Sterile Peritoneum.

But the *Staphylococcus albus* is not always present in inflamed parts. Mr. Dudgeon and Mr. Sargent investigated sixteen cases of "appendicitis with definitely localised abscess" in which "the pus had to be reached through the general peritoneal cavity," and in nine of the sixteen the peritoneum was sterile.† These last observations show that a severe local inflammation may exist, implicating a part of the bowel, and yet the peritoneal cavity may be sterile in more than half the cases. Again, forty-seven instances of strangulated hernia were observed, but in one the examination was imperfect. Coverslip preparations were made; the fluids in the hernial sacs and the intestinal surfaces were examined, with the result that "in thirty cases out of a total of forty-six the intestines, which were in all stages of inflammation and congestion, were found to be sterile." ‡ Moreover, in those cases "when the strangulation was of under one day's duration 86·6 per cent. were completely sterile"; § the

* *Loc. cit.*, p. 618.

† *Loc. cit.*, p. 623.

‡ 'The Bacteriology of Peritonitis,' Arch. Constable & Co., p. 41.

§ *Loc. cit.*, p. 43.

percentage became gradually smaller as time passed until after four days only 46 per cent. were sterile. It is, of course, obvious that the degree of strangulation ought also to be taken into account, for a case of acute and tight strangulation of intestine does not exist after four days without gangrene.

The authors stated that they were "unable to advance any sound theory to explain these facts." * But, if there is no error of observation, a proof that peritonitis may arise without the action of micro-organisms could hardly be more complete than that given by these facts and figures. The difficulty of explaining them which is met with when they are approached with the idea that every inflammation is caused by an organism disappears if we recognise that a tissue which is sufficiently strangulated must die, and that unless it is completely deprived of circulation it must become inflamed by the efforts of Nature to revive it, whether they are successful or not. In the case of a strangulated ovarian tumour to be immediately described these efforts are generally successful, but they are bound to fail when a loop of intestine becomes tightly strangulated, because the dying tissue inevitably becomes septic after a time by infection from its own contents. If this septic condition arises, Nature can effect a cure only if it is possible to throw off the diseased parts by the processes of sloughing and suppuration.

To sum up: The *Staphylococcus albus* was shown by Mr. Dudgeon and Mr. Sargent to be an organism of very low virulence; it was present in the peritoneum when there was no evidence of peritonitis, and well-marked peritonitis existed where the peritoneum was sterile. Notwithstanding these facts, the conclusion was arrived at "that the febrile disturbances so frequently found after effusion of blood into the peritoneal cavity are due to the presence of this organism, and not to any hypothetical toxic substance produced by the coagulation of the blood." †

* *Loc. cit.*, p. 42.

† *Loc. cit.*, p. 474.

This belief may be founded on the fact that no other organism was detected in the majority of the cases investigated. But in order to come to a definite conclusion that the very slightly virulent *Staphylococcus albus* caused the inflammation in the circumstances under consideration, with a rise of temperature to 101° or 102° F., which frequently follows the rupture of an extra-uterine gestation sac, it was, I think, necessary also to maintain that *an inflammation must be caused by a micro-organism*. This is the matter in dispute. If the point were conceded, there would be no doubt that the *Staphylococcus albus* or some undiscovered micro-organism is the cause of the inflammation and fever which are produced by the effusion of any considerable quantity of blood into the peritoneal sac. But if it is *not* conceded that inflammation must be due to a micro-organism, I submit for consideration that these records do not prove that the *Staphylococcus albus* was the cause of the evidences of inflammation which were observed.

Indeed, it is clearly shown that peritonitis may be found in sterile peritoneums. Moreover it was asserted that the *Staphylococcus albus* arrived in the peritoneal sac in all probability because of the irritation induced by the presence of a "quantity of blood or other sterile fluid." * The question therefore arises as to whether the irritation thus brought about was not also the cause of the peritonitis.

The Necessity of Inflammation as a Revivifying Process.

The phenomena following a sudden torsion of the pedicle of an ovarian tumour are important in this connection, and I believe that in them we may find conclusive evidence of the existence of an aseptic peritonitis. When the torsion is sufficiently tight, so that the vessels are occluded, this accident is followed by an acute pain, a very marked febrile reaction, and an immediate exudation

* *Loc. cit.*, p. 618.

of inflammatory lymph, in which blood and lymphatic vessels rapidly develop, so that in a very short time a new vascular communication is developed between the tissue of the tumour and that of the rest of the body. Until this is established—that is, during from two to three days —the evidences of febrile reaction steadily increase, the temperature rising to 102° or 103° F. or higher. At this time the tumour, if exposed, has all the appearance of dying tissue. When, however, a fresh blood-supply is fully developed, the tumour is revived, the fever ceases, and all the conditions return to the *status quo ante*, except that the growth continues to receive its blood-supply after the torsion through adhesions and not, or to a small extent only, through its proper pedicle.

Occasionally a tumour becomes septic when its pedicle twists; but this is not the rule, and I do not think it ever happens unless there is some definite damage to the alimentary or to the genital tract. Usually the cystoma grows after the illness exactly as it did before and shows no signs of putrefaction.

Mr. Dudgeon and Mr. Sargent did not mention the results of twisting of the pedicle of an ovarian tumour in their lectures, but if on investigating such cases they should find the *Staphylococcus albus* in the peritoneal sac, in the tumour, or in any part of the peritoneum, it is certain that if it comes between the tumour and adjacent surfaces it will be there only to be promptly assimilated and incorporated with the tissues. Moreover, it is only in the peritoneum covering the tumour and in that adjacent to it that evidences of inflammation develop. The peritonitis never spreads beyond these parts unless it becomes obviously septic. The *Staphylococcus albus* if present is therefore quite harmless beyond the parts adjacent to the tumour, and it does not in any way interfere with rapid union between the strangulated mass and the parts with which it is in contact. The presence of the dying tumour would therefore seem to be the cause of the inflammation which undoubtedly takes place.

My colleague Mr. Doran has pointed out * that the stump of the pedicle of an ovarian tumour which has been ligatured is prevented from dying by adhesions which form between it and the adjacent peritoneum of the broad ligament and that through these it receives nourishment. He attributed this formation of adhesions to an inflammation set up by the constriction of the ligature. The process must be the same as that induced when the pedicle of an ovarian tumour becomes acutely twisted. But inflammation *in the tumour* or in the stump is not necessary to induce the adhesions which develop. I have seen a sponge which had been left for twenty-four hours in the peritoneal cavity, which did no harm to the patient, and which was penetrated to a considerable depth all round by granulation-tissue.

These phenomena support the argument which I urged last October, and which I wish to insist upon, as I think it very important, namely that one of the functions of inflammation is to revive damaged tissues, whether these are only microscopic parts injured by the passage of a knife, or whether they are such large masses as are involved in the stump of a tumour or in a strangulated ovarian cystoma. Inflammation is never in any sense a destructive process or a process of impaired action.

Another common example of the reviving power of inflammation is well shown in such an operation as that for the removal of the breast. Large and often thin flaps may be made, and these have, of course, a supply of nutriment from the natural connections with the body which remain at the end of the operation. But we know that if a considerable area of a thin flap fails to become united to the subjacent tissues it is very apt to die. On the other hand, if all goes well, it is by the inflammatory process that fresh leucocytes and lymph are thrown out and that new connections are rapidly made between the apposed surfaces, just as happens in the case of the strangulated ovarian tumour.

* 'St. Bartholomew's Hospital Reports,' vol. xiii.

In this case, unless the bacteriologists are much at fault, it is certain that numerous staphylococci exist in the skin of the flaps, for it seems to be almost impossible to get the *Staphylococcus albus* altogether removed from the deeper layers. Hence in the rapid adhesion of a flap which usually takes place we have another example of the superiority of the healing, reviving power of inflammation over the destructive power of the *Staphylococcus albus*.

In all plastic surgery also it is necessary to avoid damage to flaps, to adjust them carefully, to prevent the formation of pockets, and to maintain the warmth and the close apposition of raw surfaces without undue pressure, in fact to favour the reviving power of inflammation in every way so that the parts may unite at once.

The healing power of inflammation is still more definitely shown in those somewhat rare instances in which a piece of tissue when completely separated from the body has been replaced and has survived. In this case the preservation of the vitality of the severed part can only be brought about by an exudation of plastic lymph and by a rapid formation of channels conveying nourishment sufficient in the first place to maintain the vitality of the disconnected tissues and later to bring them completely back into firm union with the rest of the body. I have recently seen a case in which this happened, and of course the same changes constantly take place in the process of skin-grafting. Indeed, it is by an inflammatory process that all union takes place.

To return to a consideration of an ovarian tumour strangulated by twisting of its pedicle, it is obvious that if the growth is not rapidly re-incorporated as a part of the body, if a process exactly comparable to that of primary union does not occur, the tumour will quickly die, and the presence of a large mass of dead tissue in the peritoneal space would be sufficiently damaging to account for the passage of pathogenic organisms from the intestine.

Inflammatory changes are therefore essential to prevent the death of the strangulated part if acute torsion occurs,

and it seems to me that there is no reason to suppose that an organism like the *Staphylococcus albus*, even if it is always present (which has not been shown), can have any effect in assisting to bring about repair, or that its presence can tend to act in any direction except in that of preventing the rapid and healthy union of the parts.

The *Staphylococcus albus* cannot be an essential to healing, for it is not found in all wounds. It would not occur to me even to suggest the possibility that a micro-organism might be necessary to bring about primary union in a wound were it not that I think we must arrive at the conclusion that this is the case if all inflammations are to be attributed to the actions of micro-organisms; for the facts which I have put forward in connection with the phenomena following the twisting of the pedicle of an ovarian tumour show that it is impossible to separate the processes of primary union from those of inflammation, a view which, as I have shown, was taught by Lord Lister many years ago.

Again, we know that clots very readily form when blood is effused into the peritoneal cavity. We often see them in the pelvis: if there has been much hæmorrhage during an operation, and if a clot has lain some little time in the peritoneal sac, it may be slightly or even somewhat firmly adherent before the operation is finished. The serous parts of effused blood are easily absorbed by the peritoneum, but a clot is a solid foreign body and it can only be removed by the tissues after being brought into close contact with the peritoneum by the formation of adhesions. Hence these adhesions rapidly form exactly as they do in the case of a strangulated tumour or a sponge in the peritoneal sac.

The adhesions are inflammatory in this case also, and being essential for the cure of the condition, it would appear that any action which the *Staphylococcus albus*, if present, may have cannot be necessary for the formation of the adhesions or for the safety of the patient, but must in this case also tend to be harmful by inducing

pus-formation. Owing to its low pathogenic qualities, however, it generally fails to induce any mischievous action. Union between the peritoneum and clot takes place in spite of its presence. Probably the most common instance of an aseptic peritonitis is to be found in the union of the peritoneal edges of an abdominal incision, which, according to Lord Lister's teaching must be associated with a certain amount of inflammation. Those undesired adhesions which may so frequently be observed after simple abdominal operations are also common instances of the effects of aseptic inflammation.

Speculations as to the Mode of Access of the Staphylococcus albus to the Peritoneal Sac.

Although, for the reasons given, I cannot agree with the inferences, as regards the cause of inflammation round a blood-clot, drawn from their observations by Mr. Dudgeon and Mr. Sargent, their investigations seem to me of very great importance. The source of the *Staphylococcus albus* in the clot in cases of intra-peritoneal hæmorrhage, and at a distance from an acute inflammatory focus, is an especially interesting subject for speculation. The authors of these lectures stated that "how or why this staphylococcus appears upon the scene we do not know and we are unable even to hazard a guess."* Nevertheless on the same page they asserted that "a quantity of blood or other sterile fluid, too large to be safely disposed of by absorption or encapsulature, will sooner or later be the cause of peritonitis, the organism arising we do not know exactly how, but in all probability from the intestine thus irritated by its presence." †

There are, I think, four, and only four, ways in which the staphylococci may reach the peritoneum.

* 'Lancet,' vol i, 1905, p. 618.

† *Loc. cit.*, p. 618.

Firstly, they may be circulating in the blood- or in the lymph-vessels.

Secondly, they may enter through the Fallopian tubes in the female.

Thirdly, they may gain access from outside when the parts are exposed either by injury or surgically.

Fourthly, they may pass from the intestinal, urinary, or genital tracts across their various walls or from a neighbouring focus of infection.

Firstly, it has been shown that the *Staphylococcus albus* is constantly found in the deeper layers of the epidermis, so constantly that Professor Welch called it the *Staphylococcus epidermidis albus*. It is not impossible that the cocci in the deeper layers of the epidermis, where they must be in very close relationship with the tissues, may very easily gain access to the blood- or to the lymph-stream and so might reach the peritoneum. The blood is, however, generally regarded as sterile and in three of Messrs. Dudgeon and Sargent's cases of intra-peritoneal hæmorrhage it was examined and found to be sterile. Hence the entrance into the peritoneal sac of micrococci from the blood-stream does not seem at all a likely explanation of the phenomenon observed. But it is probable that as this *Staphylococcus albus* is so constantly found in the skin, it, or some similar coccus, may exist also in the deeper layers of the epithelium of mucous membranes. Moreover we know that some micro-organisms when admitted to the tissues have a strong tendency to pass along the lymphatics. Hence if staphylococci, as seems not unlikely, are situated in the deeper layers of the intestinal mucous membrane, it is obvious that they may very easily pass to the peritoneum by means of the lymphatics, when the intestinal wall is irritated or damaged in any way, and thus they might reach an intra-peritoneal clot without entering the blood-stream.

Secondly the large number of cases in which the blood effused was connected with a rupture of an extra-uterine fœtation sac would lend some colour to the suggestion

that the staphylococcus may pass into the peritoneal space through the Fallopian tubes. It must be taken into account that an injury which ruptures a liver or spleen may at the same time so damage the bowel that organisms may pass through its wall, and therefore the access of germs through damaged intestine, which is certainly possible, can rarely be excluded in traumatic cases.

Thirdly, I have mentioned the possibility of an error of observation to complete the possible means of access. Such a mode of entrance of cocci must always be taken into account. Professor Welch said that "only in the minority of cases were the aseptic wounds which we examined free from bacteria," * and Dr. Robb showed clearly that, although the greatest care was taken in dressing drained wounds, they were liable to become infected during the necessary manipulations. †

Professor Welch wrote that "the possibility of infection from the air, insignificant as it may be in comparison with contact infection, cannot be ignored quite as much as some seem inclined to do," ‡ and Dr. M. H. Gordon has stated that in saliva from healthy persons "staphylococci were proved to be present to the extent of over a million per c.c." § and again he said that staphylococci "have a wide distribution in nature and are especially abundant in air." ||

It would therefore be interesting to have confirmation of the evidence that the *Staphylococcus albus* is always present in intra-peritoneal blood-clots; and, if possible, further experiments should be undertaken in some institution situated in a purer atmosphere than that which must exist in and around St. Thomas's or indeed any of our London hospitals.

* *Loc. cit.*, p. 26.

† 'Bulletin of the Johns Hopkins Hospital,' July, 1901.

‡ 'Trans. Congress Amer. Phys. and Surg.,' vol. ii, p. 16.

§ 'Report on Some Characters by which Various Streptococci and Staphylococci may be Differentiated and Identified,' p. 5.

|| *Loc. cit.*, p. 6.

Fourthly, the direction of ingress which Mr. Dudgeon and Mr. Sargent regard as "in all probability" being taken, namely from the bowel, seems to be the most likely. It has long been known that the presence of damaged intestine within the body is a source of danger in abdominal surgery because it may permit septic infection to reach the peritoneum, even although the intestinal tract is not opened.

I believe, however, that the healthy bowel affords as complete a protection to the peritoneum against the intestinal contents as the abdominal wall does against contamination from any kind of matter in the external air or in contact with the skin. Professor Welch has also said that "auto-infection may take place by the entrance into the circulation and tissues of pyogenic bacteria from the alimentary and the genital canals, but there is no evidence that this can occur when these parts are in a healthy condition." *

In cases of ruptured extra-uterine fœtation, unless the bowel, as sometimes happens, has been adherent and severely pressed or dragged upon by the enlarging Fallopian tube before the rupture occurs, the damage to the intestine must be insignificant, but Messrs. Dudgeon and Sargent appear to have proved to demonstration that the *Staphylococcus albus* may pass, somehow, to the peritoneal cavity when all the more seriously pathogenic organisms are excluded. *A priori*, we might, perhaps, expect that when the tissues are damaged the first micro-organism to invade the body would be one of the most powerfully pathogenic. But apparently it is not so, and it seems to me that the facts brought out fit in with and help to explain many points. They do not appear to me contrary to what might be expected: it has long been known that suppuration is a protective development of inflammation, and it would seem that micro-organisms which do not cause suppuration may penetrate farther than those which are powerfully pyogenic.

* *Loc. cit.*, p. 26.

The Pathogenicity of the Staphylococcus albus constantly found in intra-peritoneal Blood-Clot.

These considerations as to the method of access of the staphylococcus to the peritoneum are, to a great extent, speculative ; but when, excluding all problems of how it gets there, we consider the nature of the white coccus constantly found in the blood-clot resulting from rupture of an extra-uterine fœtation, I think we may draw some definite conclusions.

It seems to me that there is no evidence that the particular staphylococcus which is always found ever leads to symptoms or effects of any kind. If we regard the facts stated as free from errors of observation, this coccus can pass through tissues or along lymphatics that are very nearly or perhaps quite healthy, or it can pass along the epithelial surface of the Fallopian tube, which in the cases under consideration is usually free from infective processes.

Excluding traumatic cases, the coccus was found in all the cases of intra-peritoneal blood-clot caused by rupture of extra-uterine fœtation sacs that were examined, suppuration not being mentioned in connection with any of them before the operation was performed, and the time of operation varied from twenty-four hours to three months after the rupture.

In certain circumstances suppuration may occur, early or late, in the history of such cases, and this was attributed by Mr. Dudgeon and Mr. Sargent to the action of the *Staphylococcus albus*, as was the formation of stitch-hole abscesses and also the development of fatal peritoneal inflammations.

So far as I can gather, however, bacteriologists are not at present able to speak positively as to whether a staphylococcus is virulent or not until after they have made experiments on animals. Moreover, it was stated by Mr. Dudgeon and Mr. Sargent that "the *Staphylo-*

coccus pyogenes aureus appears to be an organism of much virulence in peritonitis and is thus in direct contrast to the white staphylococcus. There is, however, a still further point to remember, that all cultures of the *Staphylococcus pyogenes aureus* do not react in the same manner, as some are very much more virulent than others. It will also be found that a typical culture of the *Staphylococcus pyogenes aureus* may lose all its chromogenic properties when it is subcultured for the first time and Dr. W. Dowson has observed the opposite effect. We have found that the chromogenic properties of this organism and the degree of pathogenicity increase in about the same ratio. There is one fact which appears to be quite certain, that there are many intermediate varieties of staphylococci between the white and the golden coccus." And again, they said on the same page that "even the white staphylococci show all grades of pathogenic virulence." *

Dr. M. H. Gordon has also stated that "comparison between various staphylococci in regard to nine selected actions has revealed differences, not merely of degree, but of kind, and has shown that a differentiation far more elaborate than has yet been supposed to exist naturally obtains among staphylococci." †

If, then, we consider that apparently it is not at present possible to differentiate the various staphylococci, as regards their pathogenicity, by any tests except those of physiological experiment, and that their characters outside the body only vary as they induce more or less colour, or show slight differences in their effects on some reagents, it seems to me that if a staphylococcus can pass across nearly healthy tissues, or can pass along a Fallopian tube, and may remain in a blood-clot for three months without causing symptoms or suppuration, these characters are sufficient to stamp it as at least of a different strain from the coccus which causes suppuration. The distinction is as marked as if the cocci showed altogether different reactions to various culture media, and

* *Loc. cit.*, p. 549. † *Loc. cit.*, p. 43.

these distinctive characters seem to go far to support the view of Otto that some staphylococci are not pathogenic to man.

It is indisputable that an irritation does occur in those parts of the peritoneum covering the bowel which become adherent to blood-clot. But I have shown that in these cases of hæmorrhage and in cases of torsion of the pedicles of ovarian tumours there is an absolute necessity for the formation of inflammatory adhesions to revive the separated blood and strangulated tissue, and the febrile reaction is often high, whereas it has not been shown that the *Staphylococcus albus* which was found so constantly in the blood-clots under consideration has any but the most feeble irritating qualities. Moreover this coccus has been constantly found where there was no sign of inflammation. It, therefore, seems certain that it is the presence of the blood-clot that determines the inflammatory action, and the evidence that the coccus described is not pyogenic and not of any importance from a pathogenic point of view appears to be overwhelming. This staphylococcus could only be regarded as the cause of the inflammation which certainly occurs in these cases if definite evidences could be produced that no other explanation was possible. It seems to me that there could be no suggestion of the explanation that the white staphylococcus causes the inflammation in the conditions under consideration were it not that a theory has got abroad that all inflammation must have its origin in micro-organisms. Professor Adami attributed this view especially to surgeons. He said that "surgeons strive to restrict the idea of inflammation to acute pyogenic disturbance."* The view that micro-organisms are necessary to the development of inflammation seems to be somewhat widespread, and I think that many who hold it are of opinion—as Sir Frederick Treves appears to be—that they are following Lord Lister in this matter.

I do know where the view originated. I cannot find

* Allbutt's 'System of Medicine,' vol. i, p. 120.

any support for it in Lord Lister's writings and I do not know that any specialist in physiology teaches it. If I may hazard a theory in explanation, it would appear to have gradually arisen from the necessity that the surgeon, in teaching students, should constantly reiterate the importance of micro-organisms as causes of mischief. At the same time, the apparent unimportance of aseptic inflammation has contributed to its falling into the background, until this process has been altogether lost sight of in some quarters. As a matter of fact, however, the whole endeavours of the surgeon are directed to preventing interference with the inflammatory process by which wounds unite and tissues are revived. As Lord Lister said, "inflammation is essential to healing." I wish to bring the view that an aseptic inflammation may occur very prominently forward in connection with peritonitis, for it seems to me that much misunderstanding of the meaning of symptoms and as regards the interpretation of abdominal conditions generally has arisen from a misconception of this fundamental point.

The facts which I have drawn attention to in this paper seem to indicate that, just as I have argued that inflammatory changes merge into healthy physiological reactions, so there are micro-organisms which, when in contact with the tissues, do not cause any irritation in them. We know, however, that when the vitality of the bowel is sufficiently lowered dangerous mischief always arises and harmful pathogenic organisms pass through its walls.

It seems to be a deduction which may be confidently drawn from these facts, that between the condition in which virulently pathogenic germs pass through the bowel wall and that in which a white coccus alone gains access to the peritoneum, and does not give rise to suppuration or other evidence of its presence, there must be many grades of lowered vitality in the tissues and of progressive pathogenicity in the micro-organisms passing through them. Hence, when a blood-clot suppurates after remaining quiescent for a considerable time, I think

we are justified in coming to the conclusion that a strain of white staphylococcus, or some other micro-organism, more virulent than that which appears to be always present, has gained access to the peritoneum.

The fact that a living micro-organism which shows no evidence at all of irritating power is the first to pass into damaged tissues seems to be a matter of the most far-reaching importance, not only in connection with peritoneal surgery, but also as regards all surgery and all infectious diseases.

In this connection it is interesting to ascertain to what extent the bowel was damaged in these simpler cases. The description given by Mr. Dudgeon and Mr. Sargent is not altogether in harmony with my observations of similar conditions.

They said that "when the intestines are bathed in blood, even after a very short time the peritoneum appears reddened, and in the most infected portions the intestines are more or less distended. In the cases where the hæmorrhage has been arrested or is only proceeding slowly these changes are limited to the intestines immediately in contact with the extravasated blood. That peritonitis is present here is evidenced by the very fact of the walling off of the hæmatocele by intestinal agglutination. In every case of hæmatocele, even the oldest, there was an appreciable quantity of clear or slightly blood-stained exudate in the peritoneal cavity immediately overlying the hæmatocele." *

The reddening of the peritoneum and intestinal distension described seem to have been more marked, more widely distributed, and more invariably present than in the cases I have seen, and "an appreciable quantity of clear or slightly blood-stained exudate in the peritoneal cavity" as a constant factor in such cases is a condition altogether outside my knowledge. It is so contrary to the results of my own observations that I am inclined to believe that a long run of peculiar conditions may have come under observation and that it is, therefore, possible

* *Loc. cit.*, p. 474.

that the results of further examinations would not so invariably show white staphylococci in the blood-clot if another series of cases of this kind was examined.

I would be much interested to know what is the general experience of the Fellows in these respects.

Fever.

I will hardly do more than mention the question of fever. That following intra-peritoneal hæmorrhage was attributed to the action of the *Staphylococcus albus* by Mr. Dudgeon and Mr. Sargent, but the argument that this very innocent coccus or its products can raise the body temperature two, three, or more degrees seems to me far from convincing. Although it is the usual explanation of the origin of the febrile process, I am not aware that any explanation of *how* substances circulating in the blood cause fever by acting on the heat-centre has ever been forthcoming. They are said to act in this way and that is all.

We do not know how the normal temperature is maintained or where the heat-centre is, but we do know that many peripheral stimuli raise or lower the rate of loss of body heat, and create very definite physiological consequences tending to keep the temperature normal. It is certain, for instance, that when cold is applied to the surface heat is extracted from the body, but the tissues at once produce more heat and the temperature does not fall.

Exercise and digestion also cause an increase of heat development and in certain conditions I believe they raise the body temperature, but not for long in health. Stimulations of parts of the brain also cause a rise of temperature, but whether the action is on a centre or on nerve-fibres passing to or from a centre is not known.

Not only does the theory that something circulating in the blood causes fever in some unexplained way seem to me very unsatisfactory, but in surgical matters the original cause of fever—of the simplest kind of fever—is always peripheral, and is more directly associated with

effusion into the tissues than with absorption from them. When absorption is rapid fever runs low; when much exudation into the tissues occurs fever runs high. In the case of a strangulated ovarian tumour there is a well-marked rise of temperature and the local action is devoted entirely to the manufacture of adhesions; absorption from the tumour is impossible until the adhesions form. When they develop and the accumulated products of decay in the tumour gain free access to the circulation the temperature falls. It seems to me that the explanation of the rise of temperature in surgical conditions must certainly be found in a something which disturbs the balance of the stimuli passing to the heat-centre, a something which indicates to this centre that the temperature is too low, although it may really be above the normal. We know that an injury tends to lower the temperature of the part affected; if very severe, it lowers the temperature of the whole body and this remains low *until reaction takes place.*

If the temperature falls sufficiently, reaction does not take place, but the patient dies. The local partial diminution of vitality and of temperature in the tissues which is caused by an injury must necessitate the sending of messages to the central nervous system, indicating that a rise of temperature is required.

Anyone who has had a rigor or who has suffered from ague will, I think, be able to appreciate this. When reaction takes place the temperature rises; but when the normal temperature is reached the condition which brought about the local coldness and the reflex development of heat is not thereby removed.

The partial diminution of vitality continues for a time, the temperature, therefore, goes higher, goes beyond the normal and is maintained above the normal until the damaged tissues regain their full vitality or die and are cast off. The height and duration of the fever vary, of course, with the condition causing it and also with the power of the heat-centre of the individual to maintain the normal temperature.

Irritant material circulating in the blood must exercise a widespread, slightly devitalising influence on the tissues comparable to the infliction of numerous small wounds all over the body, and this would act in the same way as a more severe local injury, so far as reflex effects on the heat-centre are concerned.

There is no doubt in my mind that every surgical condition, whether septic or otherwise, that raises the body temperature is associated with tissue irritation, and one of the chief objections to the view that surgical fever is caused by some substance acting on a heat-centre is the fact that by this theory *the irritation which occurs in a wound, and which occurs all over the body in septic conditions, is entirely ignored as having any possible influence on the temperature.* In all the specific fevers there are evidences of peripheral irritation, and I think that a development of these peripheral phenomena is invariably associated with a rise of temperature.

The suggestion I have made as to the mechanism by which the temperature is raised in fever offers an explanation of the phenomena which may at least be understood. The assertion that certain substances circulating in the blood, of various origins and of indeterminate nature, act on a heat-centre so as to raise the temperature seems to me to offer no explanation at all. It is a mere statement of a theory. That a heat-centre may be directly acted upon is of course possible, but the evidence that many febrile changes of temperature are associated with peripheral irritations is too conspicuous to be ignored, and this is especially true of those changes which are most constant, and the advent of which may be most confidently predicted.

Conclusions.

The following conclusions are arrived at :

(1) That inflammation is a curative process bringing about union by first intention, producing a fresh blood-supply

to strangulated or ligatured tissues or to thin flaps, and causing a return to normal conditions by its characteristic restorative action whenever this is possible, and frequently in spite of the presence of micro-organisms.

(2) That tissues in the peritoneal cavity dying because they have become separated from their natural connections (strangulated tumours, ligatured parts, and blood-clot) can be revived only by the inflammatory process and by a consequent formation of adhesions; that there is no reason to suppose that micro-organisms are necessary to the production of these processes and, therefore, that inflammation of the peritoneum may arise without the action of micro-organisms.

(3) That, although practically all dangerous inflammations are septic, yet the science of bacteriology, in so far as it is connected with wounds, must be founded on views that recognise the possibility, or rather the constant occurrence, of inflammation in connection with aseptic injuries. This is the teaching of Lord Lister.

(4) That when septic complications take place in a wound the micro-organisms tend to interfere with the proper curative course of the inflammation which necessarily accompanies an injury.

(5) It seems to be certain that a very small damage to tissues may enable slightly pathogenic or innocuous staphylococci to effect an entrance through apparently healthy epithelial surfaces and perhaps in other ways. The condition is an undesirable and dangerous one, because a little more damage will enable a more powerfully pathogenic microbe to invade the tissues, and when a sufficient degree of mischief arises the most virulent organisms may enter and produce their various effects as if they were introduced through an incision.

(6) It is suggested that surgical fever is due to a something acting peripherally and indicating to the heat-centre that the body is too cold even when the temperature is raised, whilst the theory that fever is necessarily caused by some substance circulating with the blood and

acting on a heat-centre is regarded as unsatisfactory, because by it the irritation which occurs in a wound, and which occurs all over the body in septic conditions, is entirely ignored as having any possible influence on the temperature.

Mr. Percy Sargent commented upon the manner in which the terms "aseptic" and "sterile" had been used by Mr. Malcolm. He contended that those terms had been used by himself and Mr. Dudgeon in a different sense, the one to express the meaning ordinarily ascribed to it in surgery, namely as applied to a wound which presents no clinical sign of inflammatory reaction, the other in its strict bacteriological sense. Mr. Sargent held that their experiments, as well as those of Professor Welch, had shown that a wound may be aseptic and at the same time not sterile, and that organisms can be cultivated from the deeper parts of an aseptic wound several days after the operation. The conclusion to which he and Mr. Dudgeon had arrived, that the so-called "chemical peritonitis" did not exist, was based upon the fact that the number of those cases to which the term had in the past been applied was found to diminish rapidly on bacteriological investigation, and that the circumstance of their being unable to demonstrate the presence of micro-organisms in the peritoneal exudate was no proof that the whole peritoneal cavity was sterile. It was highly probable that in an area so large as the peritoneal cavity there would be many cases in which the presence of micro-organisms would escape detection. At any rate, Mr. Malcolm had adduced no experimental work whatever in support of his belief in non-microbic peritonitis. With regard to the nature of the white staphylococcus found so frequently in peritoneal lesions, Mr. Dudgeon and Mr. Sargent had been at pains to demonstrate that it was not the same as the staphylococcus known as *Staphylococcus pyogenes albus*, and they had never suggested that it was the cause of the suppuration which sometimes follows upon an old pelvic hæmatocele.

Mr. Malcolm, in reply, said it seemed to him that the experiments recorded by Mr. Dudgeon and Mr. Sargent were sufficient to support the view that inflammation might occur in sterile peritoneum. In addition to the cases already referred to, there were three instances of acute non-perforative peritonitis in which the peritoneum of the appendix was shown by these gentlemen to be sterile, although in two of the cases lymph was visible on this part of the serous membrane,* the symptoms being very acute. He presumed that the recorders of these observations would not deny their accuracy, and it was impossible

* 'The Bacteriology of Peritonitis,' Dudgeon and Sargent, p. 80.

to produce more definite evidence that inflamed peritoneum might be sterile. The speaker repudiated the idea that a surgeon's opinion on a question of this kind was worthless unless he could bring fresh evidence from the laboratory. In an ordinary abscess it was known that there was a focus of septic mischief in the centre and that there was a shading off from the most diseased into the healthy tissues. Professor Welch spoke of the "germ-free zone of inflammatory œdema around a spreading cellulitis,"* and, again, he said that the pyogenic bacteria set up suppuration by means of chemical substances produced by them and entering into their composition,† and that "other chemical substances are likewise able to cause suppuration."‡ In this matter Professor Welch certainly favoured the view that chemical substances might cause inflammation. As regarded the three cases of ovarian tumour that had been mentioned, two contained pus and the colon bacillus, whilst the third was gangrenous and the *Staphylococcus pyogenes* was found on its surface. It was not stated that the pedicle was twisted in any of these cases. Hence the conditions brought about could not be taken as an index of the bacteriological phenomena accompanying strangulation of an ovarian tumour by torsion of its pedicle. In the latter circumstances the tumour rapidly became a blue-black and obviously dying mass, and it so continued until it was revived by the formation of adhesions, after which it developed as if no strangulation had occurred. The position taken up by Mr. Dudgeon and Mr. Sargent in relation to the argument founded on agglutination evidence seemed altogether untenable. They urged the agglutination reaction as proof of the pathogenicity of the white staphylococcus, but, in criticising Otto's view that only one strain of staphylococcus was pathogenic to man, they said that "it is generally recognised that pathogenicity and agglutination bear no constant relation to one another, and therefore for this, amongst other reasons, we cannot place any reliance on these observations of Otto."§ Such an argument must hold good all round or not at all. Before sitting down Mr. Malcolm wished to state again the great value and importance which he attached to such investigations into the bacteriology of peritonitis as those he had ventured to discuss, but he urged that clinical evidence and conclusions derived from clinical observations were also entitled to due consideration.

* 'Transactions of the Congress of American Physicians and Surgeons,' p. 12, vol. ii.

† *Loc. cit.*, p. 25.

‡ *Loc. cit.*, p. 7.

§ 'The Bacteriology of Peritonitis,' Dudgeon and Sargent, p. 134.

APRIL 4TH, 1906.

W. R. DAKIN, M.D., President, in the Chair.

Present—47 Fellows and 2 visitors.

Books were presented by the St. Bartholomew's Hospital Staff and the Staff of Massachusetts General Hospital.

Sydney Lawrence Harke, M.R.C.S., L.R.C.P. (Cambridge), and Hugh S. Davidson, M.B.Edin. (Edinburgh), were declared admitted.

The following candidates were proposed for election: Evelyn Lancelot Adams, M.B., B.S.Lond. (Croydon), and Ida Russell Shields, M.B., B.S.Lond.

Thomas Sprot Allan, L.R.C.P. and L.R.C.S.Edin., and George Ernest Aubrey, M.B., B.S.Lond. (Chelmsford) were elected Fellows of the Society.

Report of the Pathology Committee on Mrs. Scharlieb's Specimen of Malignant Tumour of the Uterus (*see p.* 73).

WE have examined this specimen and the microscopical sections from it, and consider it to be in the main a round-

celled sarcoma showing a delicate reticulum enclosing small groups of cells within its meshes.

(*Signed*) Mary Scharlieb.
G. Bellingham Smith.
Cuthbert Lockyer.
C. Hubert Roberts.
J. H. Targett.
John S. Fairbairn.
Corrie Keep.
W. S. A. Griffith, *Chairman.*

Report of the Pathology Committee on the Doubtfully Malignant Spot in Dr. Lockyer's Specimen of Adeno-Myoma of Uterus (*see p.* 94).

We have examined the microscopic section showing this isolated area and find it exhibits a structure indistinguishable from the early stages of carcinoma. There are several glandular spaces filled with actively proliferating epithelium, which is confined by a distinct basement membrane. One or more elongated collections of cells suggest invasion of lymphatic glands by new growth.

We recommend that a drawing illustrating this condition be added to the description by the exhibitor.

(*Signed*) Cuthbert Lockyer.
C. Hubert Roberts.
G. Bellingham Smith.
J. H. Targett.
John S. Fairbairn.
Corrie Keep.
W. S. A. Griffith, *Chairman.*

A CASE OF ABDOMINAL PREGNANCY; SPURIOUS LABOUR AT TERM. FŒTUS AND PLACENTA REMOVED SIX MONTHS LATER.

By Ewen J. Maclean, M.D., M.R.C.P.Lond., F.R.S.Edin.

Senior Gynæcologist, Cardiff Infirmary, etc.

C. B—, aged 34, a married woman who had had no children and no miscarriages, was admitted in the Cardiff Infirmary on February 17th, 1906.

The regular catamenial flow, which had been of the twenty-one day type and seven days' duration, had been absent since November, 1904. Two months later some indefinite lower abdominal discomfort had been experienced and coincidently with this a brownish vaginal discharge appeared and continued irregularly through the succeeding months, accompanied at times with whitish shreds. From and after March, 1905, the abdomen had progressively enlarged and other symptoms of pregnancy had developed, including "quickening" and the presence of secretion in the breasts. The general health had been satisfactory, and the patient being regarded as normally pregnant, due arrangements had been made for her confinement about the last week in August. On the 23rd of that month some labour-like pains were complained of and a discharge of blood and mucus occurred. The pains passed off, however, and in the following weeks the breasts dried up and became smaller. The abdominal swelling also diminished in size. The patient continued to be in good health and pursued her various social and household duties with little discomfort up to a week before her admission to the infirmary, when severe pains in the back and abdomen set in, with pyrexia and vomiting. The catamenia had recurred in September and had appeared since that time at irregular intervals of three to five weeks.

On admission the patient's condition was evidently a

serious one. The facies was drawn and anxious, the tongue coated, the pulse 104, the temperature 102·2° F., and there was a trace of albumen in the urine.

Per abdomen.—The parietes were tense, distended, and so sensitive to the touch as to forbid anything like satisfactory palpation. It was ascertainable, however, that a rounded elastic tumour rose high into the abdomen from the pelvis and in the right lower abdomen a harder nodule of about the size of an orange was felt. Nothing answering to the outline of the fœtal parts could be made out. Light percussion elicited a tympanitic note over practically the whole of the abdomen.

Per vaginam.—It was difficult at first to locate the cervix, which was drawn up into the anterior fornix and bimanually could be felt to be continuous with the nodule in the right lower abdomen. The lateral and posterior fornices were depressed convexly into the vagina and gave the impression of being occupied by soft, thickened tissues.

The diagnosis was made of abdominal pregnancy with recent infection of the sac.

Operation.—A day later a median abdominal incision was made between the umbilicus and pubes. A sac wall was exposed densely adherent to the parietes and on incising the sac there was a forcible escape of fœtid gas, followed immediately by about a pint and a half of very foul-smelling, grumous fluid abundantly intermingled with yellow *débris* and portions of degenerating placental tissue. The sac contained, further, a partially decomposed full-time male fœtus, in an attitude of flexion, with the head at about the level of the umbilicus and the breech in the left pelvic region. After the extraction of the fœtus it was noted that a coil of the cord had become loosely attached to the anterior surface of the lower pole of the sac. This attachment was readily separated, as also was a considerable extent of membrane which was continuous with the placental end of the cord. To this membrane portions of degenerated placenta were adherent

and some of these were subsequently submitted to microscopic examination. The relations of the cord, the membrane referred to, and the attached portions of placenta, suggested that the placental implantation had been on the inferior and anterior surfaces of the lower pole of the sac. This impression was strengthened by the further examination of the sac as a whole after thorough irrigation with iodine lotion and dry swabbing. The uterus, slightly enlarged, was seen to be widely displaced to the right. It was, unfortunately, quite impossible to make out the condition and relations of the tubes and ovaries. These structures could neither be seen nor felt. The whole of the inner surface of the sac was lined by a thick, shreddy, greyish membrane, through which, however, the outline of the upper portion of the rectum and some intestinal coils could be traced.

No placental tissue, as such, could be recognised adhering to the sac wall. The upper pole of the sac extended to a level several inches above the umbilicus.

A few drachms of fæcal fluid were seen percolating into the sac in its right lower portion through a pinhole communication with a coil of bowel in that region.

The peritoneal cavity was completely shut off and was not opened at any time during the operative manipulations. Under the circumstances, no attempt was made to remove the sac. The sac wall anteriorly was almost an eighth of an inch in thickness and appeared to be composed of fibrous tissue. A portion of the wall removed for microscopic examination was unfortunately mislaid and lost.

After further irrigation, the sac wall and parietes were partially closed in layers and a gauze drain inserted. Twelve days later as the drainage was unsatisfactory I made an opening into the sac through the posterior fornix and inserted a rubber tube with good result.

Present condition.—The patient's general condition has much improved. She is getting up, and the temperature and pulse have been normal for three weeks. The abdominal wound has closed; a small quantity of non-

offensive, muco-purulent discharge comes *per vaginam*. The uterus is mobile and central in the pelvis, and an irregular, thickened mass is felt intimately associated with the posterior surface of the body and fundus, and extending for a short distance upwards and to its right and left.

I am indebted to Dr. Schölberg, Pathologist and Bacteriologist to the Cardiff Infirmary, for the following report, and to Dr. H. T. Samuel for the photograph of the fœtus.

Dr. Schölberg's report.—The fœtus is a fully-developed male, and shows evidences of putrefactive change. Total length, 19½ inches; weight, 6¼ lb. Hair in patches on scalp. Nails on digits and toes fully grown. The heart has four chambers, and the thymus is prominent. The cord is 17 inches in length, and terminates distally in remnants of membranes and placental tissue (confirmed microscopically).

Cultures were made from fœtal tissues immediately after operation. The peritoneal cavity opened under aseptic precautions, and aerobic and anaeorbic cultures from the extremely offensive fluid which exuded at the site of incision remained sterile after a week's incubation at 37° C. Films stained from the liver-substance show no micro-organisms when examined under the microscope.

Remarks.—The history of the case is fairly typical. If ovarian pregnancy be excluded, and if it be assumed that the primary implantation of the ovum was in the left tube, then the dislocation of the gestation occurred at the second month after the establishment of amenorrhœa, but whether by way of tubal abortion or tubo-abdominal rupture it is impossible to say for the reasons stated. The history and the conditions revealed at the operation would not favour the assumption of an intra-ligamentous development.

"Spurious labour" occurred at term, and was followed by the death of the fœtus and partial absorption of the liquor amnii.

Infection of the sac took place about six months after term—that is, at the average period of time according to Parry.

The cause of the infection was probably the minute fistula communicating with the bowel which was noted at the time of the operation. The evacuation and subsequent contraction of the sac has evidently secured the closure of the fistula.

A large part of the placenta was doubtless absorbed after the death of the fœtus, the remainder being represented by the *débris* and placental portions removed from the sac.

Of similar cases, where the extra-uterine gestation has produced a full-time fœtus and where operation has been effected after infection of the sac, eight only are recorded in the 'Transactions' of the Society during the past thirty years.

I have to thank Dr. Hesketh-Evans, Cardiff, for entrusting the case to my care and for information as to points in the history.

Dr. Maclean stated, in reply to Dr. Drummond Robinson, that the bacteriological report had reference to the fœtus only.

FIBROMA OF THE OVARY.

Shown by Dr. Amand Routh.

Dr. Amand Routh showed a specimen of a solid tumour of the ovary weighing 6 lb. 12 oz. removed from a multipara aged 47.

There were no symptoms caused by the tumour, the woman having only noticed the abdominal swelling a few weeks. She had ceased to menstruate fifteen months.

The diagnosis before operation could not be certainly made between a solid ovarian tumour and a uterine fibroid

with a broad lax pedicle; for whilst slight movement of the tumour produced no effect on the uterus, extensive lateral movement distinctly dragged upon the fundus of the uterus, which was only slightly larger than normal. The fact, however, that there was some ascites present made it more probable that the tumour was ovarian. Dr. Routh asked if there was any theory explaining why the majority of solid ovarian tumours caused ascites, whereas solid uterine fibroids, pedunculated or not, only occasionally did so. Possibly, as had been conjectured, the longer the pedicle and the more mobile the tumour, the more likely was it to irritate the peritoneum and cause ascites. Dr. Cuthbert Lockyer has kindly sent the following pathological report:

The tumour weighs 6 lb. 12 oz. It measures $8\frac{1}{2} \times 6\frac{1}{2} \times 6$ inches after hardening in formol solution. In shape it is obtusely oval. Its surface is smooth and extremely pale in colour. No adhesions are present excepting a broad band which binds the whole length of the Fallopian tube to the surface of the growth. Before section wide circular areas of softening and fluctuation were to be felt by palpating the surface. On section the softened areas were found to be limited to the superficial strata of the growth. Immediately underneath the thin capsule the tumour-substance has undergone cystic and pseudo-myxomatous change. The latter has occurred in patches around the circumference; it is not universal, and does not extend for more than one inch into the depths of the growth. The central part of this tumour presents on section a very dense surface of interlacing fibrous tissue bundles. No distinguishable ovarian tissue has been found. At the hilum—*i. e.* the point from whence the ovarian ligament and pedicle came off—the capsule is only a few lines in thickness. Microscopical examination of the periphery of tumour shows no characteristic ovarian tissue. The circumferential fibrous tissue only differs from the rest of the growth in the direction of its fibres. The entire section is composed of coarse hyaline fibrous

tissue, the cellular elements being reduced to a minimum. The total absence of recognisable ovarian stroma is fully accounted for by the size of the tumour; such symmetrical growths starting in the stroma of the ovary can, by gradual expansion, produce pressure-atrophy of the surrounding ovarian tissue, leading to its final disappearance.

Dr. Routh reminded the Fellows of Dr. Fairbairn's paper read before the Society in 1902, in which he described three main varieties of ovarian fibromata—

(1) Where the ovary is entirely replaced by the new formation. This occurs in small as well as large growths and therefore does not depend on the size to which the growth has attained.

(2) A local growth of the stroma, leaving part of the ovary unaffected except by compression. The growth tends to remain within the capsule of the ovary.

(3) Pedunculated fibromata forming outgrowths from the ovary.

This specimen seems at first sight to belong to type No. 1, but is it not likely that it really belongs to Dr. Fairbairn's second class, and that the pressure of so large a growth has destroyed any normal ovarian tissue which may have been discoverable at the hilum, or elsewhere, when the fibroma was smaller? In other words, is not Dr. Fairbairn's second type, where ovarian tissue is found displaced, an early stage of his first type, where none is found?

There is nothing of an infiltrating nature in a fibroma and pressure-atrophy by an encroaching fibroma seems sufficient to explain the absence of ovarian tissue in advanced cases. Does Dr. Fairbairn still believe that even in small tumours the ovary may be entirely replaced by the fibrous growth? If so, what is the process by which the transformation is effected?

Dr. Lewers said he might have been exceptionally unfortunate, but in all the cases of fibroids of the ovary on which he had operated there had been no free fluid in the peritoneal cavity.

Dr. Briggs said he believed that an ovarian fibroma, adequately nourished, continued to grow without producing ascites; that

ascites, so frequently present, was due to an impairment slowly occurring and in a minor degree in the nutrition of the lowly vascular tumour itself, quite apart from damage to the ovarian pedicle; and that torsion of the latter led to a plastic exudate to supply a more largely and acutely impaired nutrition of all the tissues beyond the site of the torsion.

Dr. Herbert Spencer agreed with Dr. Briggs that there was usually free fluid in the peritoneum in cases of ovarian fibroid, though it was sometimes absent. He thought Dr. Lewers' experience must be quite exceptional. With regard to the cause of the fluid, he thought it was a difficult point to determine, but he had met with one case in which a bleb half an inch thick appeared on the surface of an ovarian fibroid, and by squeezing the periphery of the tumour with the hands fluid could easily be made to ooze from a slight crack in the bleb. This led him to think that in at least some of the cases the escape of fluid was due to pressure of the hard tumour on the lymphatics or blood-vessels in the hilum of the ovary, which Poirier and others had shown to be so large and numerous.

Dr. Amand Routh, in reply, thanked Dr. Briggs and Dr. Spencer for their suggestion regarding the causation of ascites with solid tumour of the ovary. He had hitherto believed that the ascitic fluid came from the surrounded peritoneum irritated by the tumour. Dr. Spencer had suggested the fluid came from the tumour itself, and if so the collections of fluid beneath the capsule of the tumour he had just shown might be of significance. He alluded to a case reported by Thomas Keith where a watery vaginal excretion from a uterus containing fibroid alternated with ascites. In reply to Dr. Briggs, he said there was no torsion of the ovarian pedicle in his case. The pedicle was three inches broad and very vascular.

AFTER-HISTORY OF "A CASE OF CYSTIC FIBROID WITH CARCINOMA OF LEFT OVARY AND RIGHT FALLOPIAN TUBE" [BROUGHT BEFORE THE SOCIETY FIVE YEARS AGO].

By Dr. Robert Boxall.

At the meeting of this Society in March, 1901, he showed a specimen recently removed by operation from an unmarried lady of 48. The specimen consisted of a

myomatous uterus and its appendages. The lower part of the fibroid mass, which occupied the pelvis, had become cystic and caused much difficulty in removal. But the chief interest in the specimen at the present time lay in two small nodules found, one, no larger than a cherry-stone, at the outer extremity of the right Fallopian tube, the other, the size of a chestnut, in the left ovary. These nodules on examination proved to be cancerous. The specimen is described and figured in Vol. XLIII of our 'Transactions,' p. 71, *et seq.*, and the report of the committee to which the specimen was referred will be found on p. 144 of the same volume. At the time the specimen was shown he undertook to provide the subsequent history. That history is shortly summed up in a letter received from the patient herself and dated February 12th, 1906, in which she says: "As another year comes round I feel I must again thank you for your kindness to me now five years since. You will be glad to hear I have had excellent health ever since, and thoroughly enjoy life. My operation was in every way a wonderful success," etc. After the receipt of this letter he had seen the patient, and then learnt a point in her family history which is worthy of note. Her mother had died of cancer, the death-certificate showing "epithelioma of the bladder, chronic cystitis, cystic degeneration of the kidneys, uræmia." As the subject from whom the specimen was removed has remained in perfect health for five years, there is every reason to believe that the malignant element has been entirely eliminated.

A SPECIMEN OF TUBO-ABDOMINAL GESTATION AT THE FOURTH MONTH OF PREGNANCY REMOVED BY ABDOMINAL SECTION.

Shown by Dr. George Blacker.

Mrs. C—, aged 42 years, had had four children and no miscarriages. The youngest child was four years old.

She had enjoyed good health until the summer of 1905. Her periods had always been regular but rather scanty for a year or so, whilst the last period had commenced on 20th of July, 1905.

At the end of August when away from home she was seized with a sudden attack of abdominal pain, accompanied with retching and vomiting. After this she had occasional attacks of slight pain in the lower part of the abdomen and in the middle of September she had another severe attack of pain which confined her to bed for six weeks. This attack was accompanied by faintness and sickness, and at the time her friends noticed that she was pale. From this time on she gradually lost weight and was never entirely free from a sensation of weight and pain in the abdomen. Micturition was normal and the bowels were regular.

In November the patient consulted Dr. Herman, who diagnosed an extra-uterine gestation and recommended immediate operation. On November 27th I saw her and found the following condition to be present: There was some pigmentation of the areola of the breasts but no secretion to be squeezed from them. In the lower part of the abdomen was a tumour made up of two portions, the smaller part to the left feeling like the fundus uteri, whilst the larger part of the tumour on the right side extended up well above the pelvic brim with a rounded upper border, was tender and fixed, and had the consistence of a soft solid tumour. There was resonance on percussion over the upper part of the mass.

On vaginal examination the uterus was found to be enlarged and pushed over to the left side, whilst the right posterior half of the pelvis was occupied by the tumour felt by the abdomen, which on bimanual examination had a somewhat doughy feel in its lower part. There was a small quantity of blood-stained discharge of uterine origin which had been present for two or three days only. On November 29th the tumour was removed by abdominal section. It was found possible to shell it

up without much difficulty from its attachments to the floor of the pelvis, the uterus, and the broad ligament, until at length quite a narrow pedicle measuring some one and a half inches in breadth was obtained, which was ligatured and the tumour removed. There was no undue hæmorrhage from the raw surfaces and the abdomen was closed without drainage. The patient made an uneventful recovery.

The specimen has been divided after hardening in formalin in its longest diameter; it measures 13·5 cm. by 8·5 cm. On section it is seen that rather more than half represents a section of the fœtus and the remainder a section of placental tissue and blood-clot. The portion of the head divided measured 5·5 cm. by 4·2 cm., whilst the antero-posterior measurement of the cranium is 5·1 cm. The head and trunk together in their longest diameter measure 8·4 cm. The section has apparently passed in an oblique manner through the upper part of the abdomen and the lower part of the chest of the fœtus, and obliquely through the head from the right side above to the upper part of the left orbit. The section also passes through the umbilical cord and the anterior surface of the right thigh just above the knee. The fœtus has reached the end of the fourth month of development, and although somewhat compressed, apparently is well developed. The amnion can be traced surrounding the fœtus; outside this there is a fibrous membrane continuous with that covering the remainder of the whole tumour, which is composed of chorion and false capsule.

The placenta is irregular and torn on the surface, which was adherent to the floor of the pelvis; elsewhere it is contained within a capsule in part at least formed by the wall of the tube, the remainder made up of newly-formed fibrous tissue.

The specimen appears to be an example of a tubo-abdominal fœtation at the fourth month of pregnancy with the placenta situated below the fœtus. The anatomical relations found at the time of the operation seem to

negative the view that the fœtus was at any time contained within the layers of the broad ligament.

A CASE OF FIBROIDS OF THE UTERUS COMPLICATED BY CANCER OF THE CORPOREAL ENDOMETRIUM.

By J. Bland-Sutton.

The uterus the subject of this communication was removed from a spinster, aged 59 years. Before the operation there was some uncertainty whether the signs (the chief of which were irregular losses of blood followed by a foul discharge) depended on a dead and septic submucous fibroid, or on cancer of the body of the uterus. The presence of interstitial fibroids was easily ascertained on vaginal examination, and the existence of a submucous fibroid seemed probable from the patient's statement that menstruation remained unabated until she attained her fifty-fourth year. The strong suspicion that the uterus contained a carcinoma, as well as fibroids, led me to perform total hysterectomy by the abdominal route. In the course of the operation a discoidal body with a transverse diameter of 10 cm. was found in the great omentum and removed. This proved on subsequent microscopic examination to be a secondary deposit of cancer, although no other gross evidence of infection could be seen elsewhere in the abdomen. The ovaries and tubes were completely removed. After hardening the uterus was divided in a sagittal direction and its cavity found to be occupied by a massive form of growth arising from the fundus of the organ; a long, blood-stained, tail-like process of growth extended into the cervical canal.

On microscopic examination the soft growth in the uterus consists of cancerous islands imbedded in a rich

cellular stroma: here and there the epithelial elements show some approach to the formation of a solid cylinder of columnar cells. The microscopic features of the solid tumour in the omentum are those of cysts lined with epithelium and filled with papillomatous processes. In the laboratory the pathologist suggested that they were like the well-known dendritic epithelial processes found in papillomatous cysts of the ovary. As a matter of fact they were so like the sections of a duct cancer of the breast that I made a careful examination of the patient to be sure that I had not overlooked a tumour of the breast.

The presence of so large a secondary tumour induced me to carefully examine the uterus and Fallopian tubes with the object of tracing the probable route of infection, but I failed to find any naked-eye evidence of this, and the source is equally inscrutable to the microscope, for the tubal and uterine walls in the immediate vicinity of the growth do not betray signs of invasion.

The frequency with which cancer of the corporeal endometrium complicates fibroids of the uterus has never been seriously discussed in this Society, and I have been stimulated to show this specimen after reading a paper by Piquand, who has collected 179 cases of this combination and attempted to give it a numerical basis. He found in 1000 cases of fibroids cancer co-existed in 17, a proportion, he writes, eight or nine times higher than in other women; this association of cancer of the body of the uterus and fibroids is most common in nulliparous women between the fiftieth and sixtieth years. He also comes to the conclusion that the presence of fibroids appears to favour the development of cancer, inasmuch as these tumours set up chronic metritis, which renders the endometrium prone to malignant transformations. ('Annales de Gynécologie,' September, 1905).

The perusal of Piquand's paper induced me to ascertain if my own experience in any way accorded with these findings and I am somewhat surprised at the result.

I find that in 500 consecutive cases of fibroids sub-

mitted to operation there were eight cases of cancer of corporeal endometrium, the nature of the disease in each instance being confirmed by microscopic examination. In this series also there were two cases of primary cancer of the Fallopian tube associated with fibroids of the uterus.

My experience of cancer of the body of the uterus comprises 23 cases, of which 8 were combined with fibroids, interstitial or submucous. The available statistics appear to show that fibroids influence the age-incidence of cancer of the corporeal endometrium, for among these 23 cases 5 were under the age of fifty, the youngest being a woman of thirty-six years. All the patients in whom cancer of the corporeal endometrium was associated with fibroids had attained or passed the fiftieth year.

In regard to the question of fibroids predisposing women to primary cancer of the body of the uterus I think it is premature to assert that they exercise such a malign influence; the question is one of importance, for it may be true, but it needs more observation of a clinical and pathological kind, as well as statistical inquiry before anything approaching a sound judgment can be formed.

Note.—The woman died four months after the operation with recurrence in the pelvis, abdomen, and in the abdominal cicatrix.

Dr. Lewers said he had seen a certain number of cases of cancer of the body of the uterus, as well as cases of cancer of the cervix, in which uterine fibroids were also present. He did not think the association of cancer of the body of the uterus with uterine fibroids occurred more frequently than could be explained by coincidence. In considering this question it had to be remembered that uterine fibroids existed in a very large proportion of women generally, many of whom had no symptoms. These cases would, of course, be omitted if only a series of cases of fibroid tumour requiring operation were taken into consideration, as appeared to be the case in Mr. Bland-Sutton's statistics.

Dr. Galabin said that he had for a long time had a general impression that fibroid tumours of the uterus favoured the occurrence of cancer of the endometrium. But he was surprised,

having lately had occasion to look over the notes of the cases in which he had removed the uterus for cancer of the fundus, to find that in more than 40 per cent. (actually 43 per cent.) of the cases the cancer was associated with fibroids of considerable size. He thought that this was a larger proportion than could be accounted for by the general prevalence of fibroid tumours. In one case there was a condition which, he thought, was additional evidence in favour of some causal relation existing. In a patient who had a large fibroid tumour cancer was suspected on account of irregular hæmorrhage, but no cancer could be reached by the curette. The uterus was, however, removed, and cancer of the endometrium was found strictly limited to the mucous membrane covering the tumour, but affecting nearly the whole of that.

Dr. Amand Routh said that if it were true that 40 per cent. of women over forty years of age had fibroid nodules in their uteri the 1·5 per cent. of fibroids which were complicated with carcinoma of the body of the uterus between fifty and sixty years of age, as stated by Mr. Bland-Sutton, was far short of the proportion which should exist.

Dr. Andrews said that the high percentage of cases in which carcinoma was found in fibroid uteri removed from elderly women was partly explained by the fact that most women with fibroid tumours who reached the age of fifty to sixty did not suffer from symptoms due to the fibroids, while all those in whom carcinoma occurred in fibroid uteri suffered from definite symptoms which led to examination and operation.

CHRONIC INFECTIVE METRITIS.

(With Plates X—XV.)

By Augustus W. Addinsell, M.B., M.R.C.P.,
Physician London Temperance Hospital.

(Received February 23rd, 1906.)

(*Abstract.*)

The condition is due to infective inflammation originating in the endometrium, and extending into the muscle wall of the uterus.

In the cases here referred to there is a history of infection following childbirth, miscarriage, gonorrhœa, or local interference.

In none of the cases was there any gross lesion such as the presence of fibro-myomata or malignant disease found before or after removal by operation.

In all, the predominant feature which determined hysterectomy being performed was persistent, excessive, and uncontrollable hæmorrhage.

Three stages are described:—

The *first*, or *early stage*, in which the chief characters are perivascular inflammation, small round-cell proliferation surrounding the vessels.

A gradual encroachment of round cells along the line of vessels and invading the inter-muscular connective tissue.

Round-cell proliferation surrounding those mucous glands which lie deepest in the muscle wall.

The *second stage* is marked by considerable increase of fibrous tissue.

The inter-muscular connective tissue is converted into fibrous

tissue, bundles of muscle-fibres are seen in isolated groups, strands of fibrous tissue running in all directions.

The arteries are thickened, chiefly in the middle coat, but also in the outer coat. There is increased vascularity. Some of the arteries are almost obliterated. Many are distorted in shape.

This is the condition described by Mr. Bland-Sutton as "fibrosis," and by Dr. Palmer Findley as "arterio-sclerosis."

In the *third stage* there is a still greater increase in vascularity.

The fibrous tissue has undergone degeneration.

There is marked dilatation of capillaries.

The muscle-nuclei take the stain badly.

The whole microscopical field looks like an opaque homogeneous mass perforated with innumerable vessels.

It is difficult to make out any muscle tissue.

The clinical history of these cases is described and the treatment is discussed, the conclusion being arrived at that after all the usual remedies have been tried, hysterectomy has eventually to be had recourse to.

THERE occur from time to time cases in which intermenstrual bleeding, at first slight in amount but gradually increasing, calls the attention of the patient to the fact that all is not right. Inquiry elicits the statement that the periods are increasing both in frequency and in amount. They last longer, are more severe, and there are often intermenstrual hæmorrhages, and in severe cases the bleeding may be almost persistent, with the intervals of freedom shorter than the periods of bleeding.

Examination reveals nothing abnormal. Ovaries and Fallopian tubes are felt to be free from any gross lesion. The uterus is perfectly mobile, perhaps slightly enlarged, but not markedly so. If the sound be passed it does not measure more than 3 or $3\frac{1}{2}$ inches. The verdict may be, and generally is, that the patient is suffering from subinvolution.

Various suggestions of treatment are offered. Hydrastis, hamamelidis, ergot, and all the usual drugs are tried with-

out benefit. Finally, curettage is resorted to. There may be temporary relief, but not always. Sometimes the bleeding is increased. Why is this? No fibro-myomata can be detected, and with the exception of the hæmorrhage there is no reason to suspect malignant disease. Why, then, should these patients bleed? It not infrequently happens that the hæmorrhage from one of these uteri is so severe, so persistent and uncontrollable, that hysterectomy has to be resorted to.

When the removed organ is examined to the naked eye it appears normal, but a very striking condition is immediately observed under microscopical examination.

The following clinical and pathological description of a typical case will best illustrate the condition.

M. S—, aged 33. Married thirteen years. She had one child, twelve years old. She menstruated at fourteen, was always regular, had no pain, and the loss was moderate in amount up to the time of her marriage. The confinement was followed by an illness of three months' duration, which was caused by what she describes as "chill" at the time accompanied by "high fever" and "internal inflammation."

Since the birth of the child, twelve years ago, there has been an increasing tendency to a shortening of the intermenstrual intervals, twenty-eight days to twenty-five, then to twenty-three. This was very gradual, but for the last three and a half years she rarely went more than seventeen days at the longest without a return of hæmorrhage.

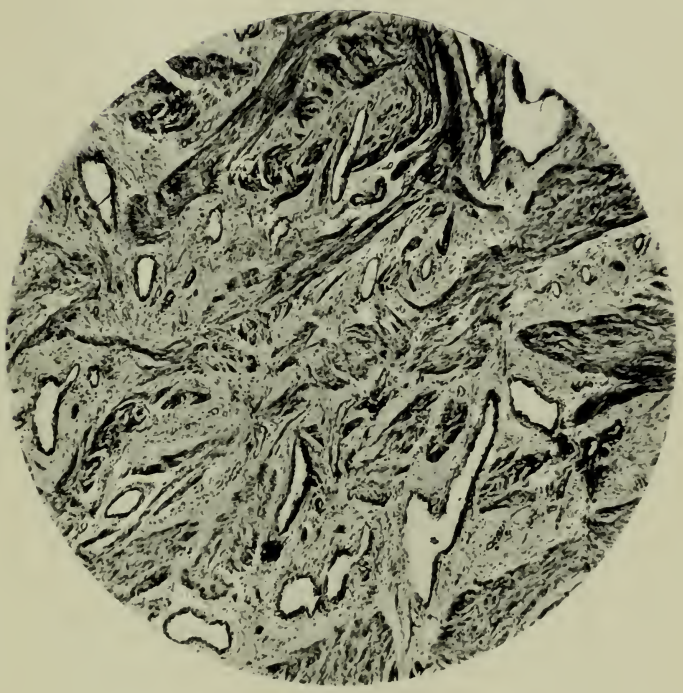
Three years ago there commenced slight intermenstrual coloured discharges. She was then curetted by a continental physician. This was followed by severe and prolonged hæmorrhage, necessitating her confinement to bed for a month. After that the periods were more profuse and more frequent, until the early part of 1904, when she was again curetted by a doctor in this country. This second curettage was again followed by hæmorrhage and a six weeks' illness.

Late in the year 1904 she came under the care of Dr.

DESCRIPTION OF PLATE X.

Illustrating Dr. Addinsell's specimen of Chronic Infective Metritis.

Great increase of fibrous tissue almost entirely replacing muscle-tissue; increased vascularity, but no thickening of arterial walls. Some of these spaces are probably dilated lymphatics. Low power.



Illustrating Dr. ADDINSELL's paper on Chronic Infective Metritis.

Adlard & Son, Imp.

DESCRIPTION OF PLATE XI.

Illustrating Dr. Addinsell's specimen of Chronic Infective Metritis.

Group of vessels, showing thickened middle coat and distortion of lumen, together with a patch of commencing hyaline degeneration.

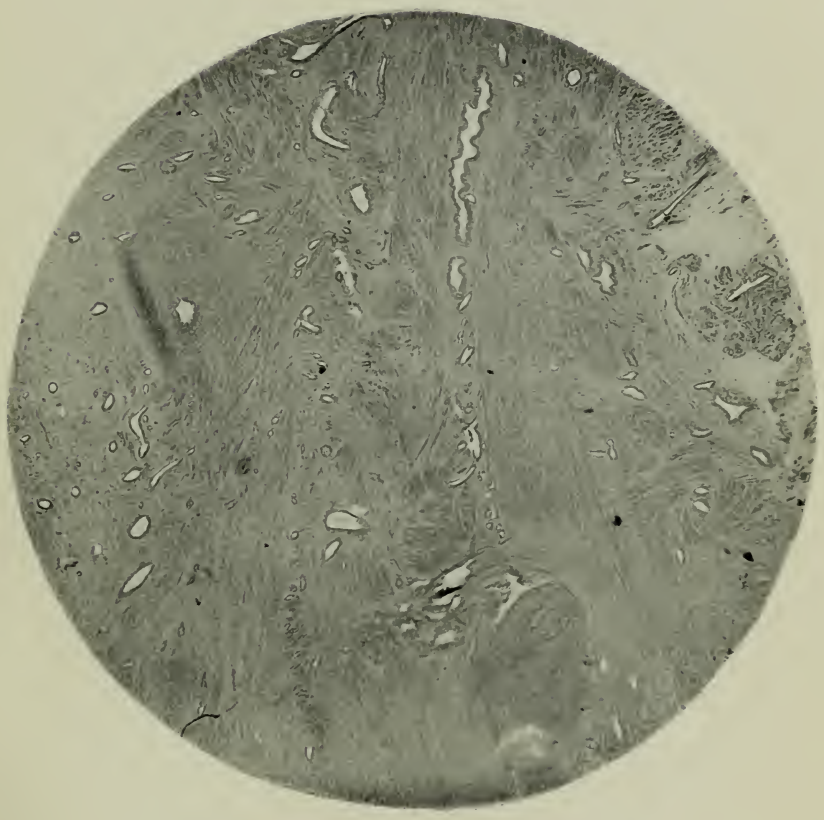
Illustrating Dr. ADDINSELL'S paper on Chronic Infective Metritis.

Adlard & Son, Impr.

DESCRIPTION OF PLATE XII.

Illustrating Dr. Addinsell's specimen of Chronic Infective Metritis.

Very extensive degeneration of uterine wall; only faint traces of muscle-fibre are to be found; enormous increase of small vessels and dilated lymphatics. This change resembles hyaline degeneration under the low power.



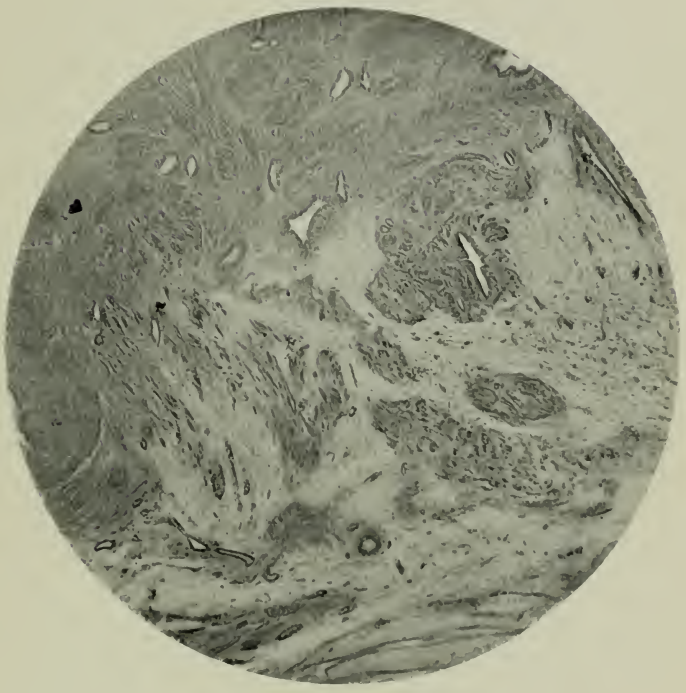
Illustrating Dr. ADDINSELL's paper on Chronic Infective Metritis.

Adlard & Son, Impr.

DESCRIPTION OF PLATE XIII.

Illustrating Dr. Addinsell's specimen of Chronic Infective Metritis.

There has been great increase of intermuscular fibrous tissue, which has undergone degeneration closely resembling hyaline degeneration in appearance. Some of the arteries are greatly thickened, and these have also undergone degeneration.



Illustrating Dr. ADDINSELL's paper on Chronic Infective Metritis.

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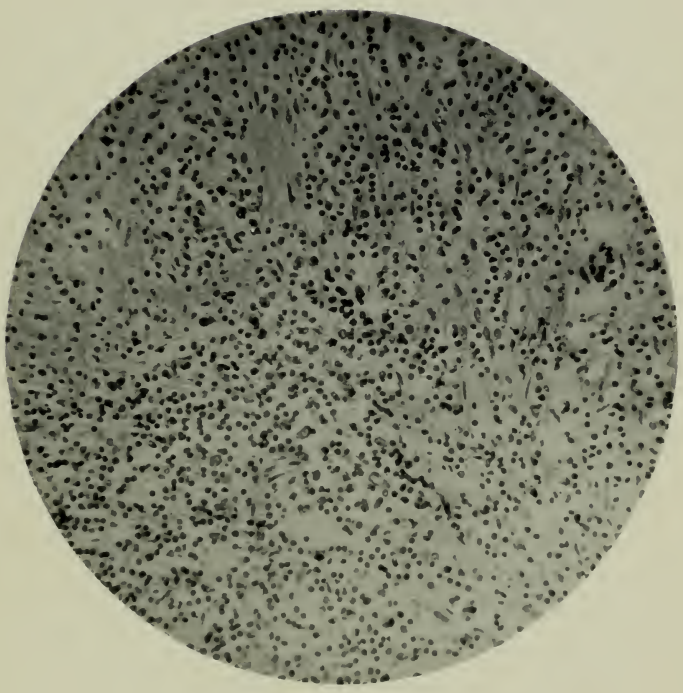
DESCRIPTION OF PLATE XIV.

Illustrating Dr. Addinsell's specimen of Chronic Infective Metritis.

Group of round cells invading muscle-wall from endometrium. Muscle-fibres can be seen in the upper part of the field, where the round cells are less numerous. High power.



Illustrating Dr. ADDINSELL's paper on Chronic Infective Metritis.

Adlard & Son, Impr.

DESCRIPTION OF PLATE XV.

Illustrating Dr. Addinsell's specimen of Chronic Infective Metritis.

Mass of round cells surrounding a vessel and invading the muscle-wall. High power.

Illustrating Dr. ADDINSELL's paper on Chronic Infective Metritis.

Adlard & Son, Imp.

Hamilton Bland, who placed her in a nursing home and satisfied himself of the severity of the hæmorrhages and the length of time they lasted. There was continuous bleeding, varying in amount, but often severe, from January 12th, 1905, to March 5th.

I was then asked to see her in consultation with Dr. Bland. The patient was profoundly anæmic. The lips and mucous membranes were colourless. She was wretchedly weak and looked very ill, unable to take any exercise or interest in her surroundings of home, and confined either to bed or the sofa. Examination revealed nothing abnormal in the pelvis. The sound was not passed, but the uterus did not feel enlarged. All the usual remedies of ergot, hamamelidis, hydrastis, douches, and curettage had been tried and found wanting. The sister of the home assured me of the alarming quantity of the hæmorrhage. I advised hysterectomy.

On March 8th I removed the uterus by the abdominal route, leaving both ovaries. Convalescence was without incident.

A year has now passed. The benefit to the patient's health is most gratifying. She is now a perfectly strong and happy woman and able to fulfil all her duties.

Examination of the removed organ reveals the following changes: The walls of the uterus feel rather denser than normal; it measures less than three inches in length.

Microscopical examination shows the following changes: Under the low power attention is immediately directed to the marked perivascular and periglandular proliferation of small round cells. These cells can be traced along the lines of vessels and in many places show a tendency to invade the muscle-wall, making their way into the intermuscular connective tissue. In some fields there are groups or masses of round cells occupying quite a considerable area. Wherever the glands of the endothelial lining membrane dip more deeply into the musculature there are to be seen surrounding these invading glands

many small round cells. The higher power shows the tendency to separation of the bundles of muscle-fibres by small cells, and the œdematous condition of the muscle-walls is well marked. There are many dilated lymphatics scattered throughout the whole area of the musculature, and evidence of inflammation surrounding these dilated lymphatics and newly-formed blood-vessels is everywhere abundant by the groups of round cells surrounding these structures. Having regard to the age of this patient, the arteries are distinctly thickened, and in some fields there is a considerable increase in the number of quite small vessels. This thickening is chiefly in the middle coat, but the outer coat is also involved. Many vessels are distorted in shape and some almost obliterated, but the most striking feature is the increased vascularity—that is, greatly augmented number of small vessels distributed through the muscle-wall. The endometrium is scanty in amount though normal in appearance, save in that part which is immediately adjacent to the muscle-wall. Small groups of round cells may be seen, and can be traced up along the line of invading vessels and glands into the musculature. With this solitary though important exception the endometrium is normal.

In searching the literature that would throw any light upon this condition, I find there are recorded isolated cases or small groups of cases by various authors under various titles.

In the June number of the 'Journal of Obstetrics and Gynæcology of the British Empire,' 1905, there appears an article by Dr. Freeland Barbour, of Edinburgh, entitled "Climacteric Hæmorrhage." He there cites an interesting case of his own, where there was marked sclerosis of the uterine vessels, and to such a degree that the vessels stood out on section of the organ.

Mr. Bland-Sutton, in the 'Lancet' of May 27th, 1905, refers to some cases under the title of "Uterine Fibrosis." The chief symptom was persistent and severe hæmorrhage which necessitated hysterectomy. Again, as far back as

1899 he says in the 'British Medical Journal' for that year: "I take the view that these fibrotic changes are secondary to chronic infective metritis, and are analogous to that curious fibroid change (syphilitic) which occurs in the muscle-tissue of the heart, and which entails consequences so serious as sudden death."

Dr. Palmer Findley, in the 'American Journal of Obstetrics,' vol. xliii, 1901, describes some cases under the title of "Arterio-Sclerosis." His attention seems to have been confined entirely to the arterial changes, though he incidentally refers to the changes in the muscle-wall, saying briefly, "There was atrophy and degeneration of the musculature." Now, in all cases that were quoted by Dr. Palmer Findley the patients' ages are given as from forty to forty-nine. Dr. Barbour's case of climacteric hæmorrhage was forty-six years of age.

Gottschalk, in the 'Archiv für Gynäkologie,' vol. lxvi, 1902, quotes two cases of arteriosclerosis, but they were sixty-one and fifty-six years of age.

It is clear, therefore, from the ages given by the various authors I have quoted, that their patients were at or about the menopause.

Now, all my cases may be fairly described as young women. The youngest was twenty-nine and the eldest thirty-four. The importance of this is easily seen, for as age advances in multiparous women and the menopause draws near, it is found to be the normal condition for the arterial walls to be thickened. The ages of the patients under discussion have, therefore, an important bearing upon the histological changes. Moreover, none of my patients were multiparous.

At the October Meeting of the Obstetrical Society I showed a uterus (with microscopical sections) which had been removed for tubercular disease. This woman suffered from continuous hæmorrhage, varying in amount from a mere staining to occasional flooding, but it was incessant. The microscope showed tubercle from cervix to fundus in the endometrium, but in addition to this there was evidence

of inflammation affecting the whole uterine wall, viz. much increase of fibrous tissue, marked perivascular proliferation of small round cells. In many places fibroblasts are in the process of formation. This particular case is interesting as it was originally the seat of tubercular disease, but as this patient suffered from complete prolapse, the uterus being actually outside the vulva, it had become eventually the seat of a mixed infection, as the cervix was markedly eroded and covered with foul septic discharge.

It is interesting to notice the distribution of the tubercle. This is entirely confined to the endometrium, whereas the chronic inflammation of the uterine wall has affected it through the whole of its structure. The most advanced changes are to be seen in that portion of the wall lying immediately under the peritoneum, whilst it is evident from the changes to be seen in that portion of the muscle-wall lying nearest the endometrium that this structure has been the portal through which infection of the uterine wall has entered.

Dr. Freeland Barbour quotes Richelot, who draws a distinction between arteriosclerosis and true inflammation, for he says: "The former depends on vascular changes, the latter on infection."

That infection plays a very important part in the condition now being discussed seems clear from the following case:

Mrs. F—, aged 31, married eleven years, had never been pregnant. In March, 1901, the period did not appear. Hitherto she had been regular every twenty-eight days and suffered no pain. It usually lasted four to five days.

At the end of April she met with an accident. There was violent hæmorrhage which reached alarming proportions. She was curetted in the country. This was followed by a severe and protracted illness, keeping her in bed for three months.

In January, 1902, I saw her for the first time. She

told me that since her illness she had been bleeding seven or eight, sometimes ten or twelve, days at each period, and for the last six months there had been an intermenstrual discharge, which was gradually increasing in severity, and that it had been continuous for the last ten weeks. This was confirmed by her husband and her maid. She was kept in bed for the next fortnight in order that I might assure myself as to the severity of the hæmorrhage. The anæmia from this continuous loss was profound. Abdominal hysterectomy was performed. Examination of the uterus revealed a similar condition to that described in the first case.

This case is peculiarly complete in that we have the cause originating in septic inflammation following curettage for what was probably an early miscarriage. This infection, starting at the endometrium, has invaded the whole of the uterine muscle-wall. This patient is now completely restored to health.

My attention was first directed to this condition of chronic infective metritis by a very striking case, a brief recital of which may be of interest.

N. L. T—, aged 31, was married at 20, and had one child eighteen months after marriage. She first consulted me in 1897, and told the following story: She had never been well since the birth of her child, which was then eight years old, that she had suffered from severe leucorrhœa, that her periods had increased both in quantity and in length of time they lasted, and that she was unable to stand long or walk far on account of a continual bearing down pain as if her inside were coming out. For the last two years she had noticed that her discharge, which was formerly yellow, was nearly always tinged with blood.

She was greatly emaciated. A very tall woman standing 5 feet $11\frac{1}{2}$ inches, she weighed but little over 7 stone. She was profoundly anæmic, spent most of her time either in bed or on the sofa. She was unable even at the best of times to walk half a mile. She had passed through the hands of several of the most distinguished

gynæcologists of the day. She had been curetted three times, had had two rest cures of six weeks each, and all of no avail.

Examination showed perineal laceration almost to the rectum, a transverse laceration of the cervix up to the vaginal roof. There was an extensive scar in the vaginal roof on the left and a less extensive one on the right. The uterus was considerably prolapsed. The cervical lips were completely everted, greatly thickened, and bathed with a copious discharge.

In consultation with the late Dr. William Playfair it was decided to perform a trachelorrhaphy, colporrhaphy, and a perineorrhaphy. This was accordingly done. At the same time she was again curetted. For some six months there was a distinct improvement.

At the end of twelve months the intermenstrual hæmorrhages increased in severity and the patient's general health was distinctly worse.

At this time, in consultation, Mr. Bland-Sutton advised hysterectomy, to which, however, I did not agree, and so she remained in this unsatisfactory condition, drifting from bad to worse for another six months, when it became evident that delay was no longer justifiable. I therefore performed vaginal hysterectomy, and the patient is now perfectly well and restored to health.

I have only one regret in connection with this case, and that is, that I did not accept the advice of Mr. Bland-Sutton when he first proffered it.

The following are the pathological notes of the case, and photographs have been made of the sections, which well illustrate the fibrotic changes which have occurred: The uterus was removed by vaginal hysterectomy. There was a transverse laceration of the cervix extending to the vaginal roof; both anterior and posterior lips were everted, greatly thickened, and denuded of mucous membrane. The walls felt denser and firmer than normal. There were no obvious changes of the endometrium, but a very striking alteration of the muscle-wall was immediately

noticed when examined under the microscope. The muscle-tissue was split into islands with broad bands of fibrous tissue running in all directions. In places this fibrous overgrowth was dense and well organised, whilst in other places it was undergoing degeneration, taking the stain badly, and looking like a homogeneous surface studded with small perforations. Many of these are probably dilated lymphatics, whilst others are small blood-vessels, for corpuscles may be seen *in situ*. In other fields, again, the process of inflammation is evidently more recent, for masses of round cells may be seen surrounding and accompanying blood-vessels, and separating the muscle-fibres and evidently invading the territory of the musculature. Indeed, there are observed fibroblasts in process of formation into organised fibrous tissue.

So far the cases recorded illustrate two distinct stages of inflammation.

It will be remembered, in recording the histological changes of the first case, the chief and dominant feature was perivascular and periglandular proliferation of round cells, entering the muscle-wall through the endometrium, tracking along the vessels, and gradually invading the muscle-wall itself.

In the case just recorded the most noticeable feature is the extraordinary overgrowth of fibrous tissue which has separated the bundles of muscle-fibres and replaced the muscle-tissue.

In the next case the histological changes are those which I conceive to be the final stage of chronic infective metritis. This patient was thirty-one at the time she consulted me in 1901. She has one child, aged nine. There was a history of a miscarriage four years previously to my first seeing her.

About this time, that is in 1897, she had suffered from an acute copious yellow discharge and painful micturition, was acutely ill for some weeks—giving, in fact, the history of an acute attack of gonorrhœa. From the time of this miscarriage she dates her illness. The hæmorrhages,

which up to that time had lasted five or six days and were of the twenty-eight day type, had increased to an alarming extent. Intermenstrual hæmorrhages had been frequent and severe. The woman was evidently very ill. On one occasion the hæmorrhage came on with such severity and alarming rapidity that she had to be lifted from her horse and laid on the ground in the hunting field.

I saw her in London in the early part of 1901. She lay in bed for six weeks with continuous hæmorrhage, being never entirely free, though sometimes slight, but oftener very severe. She had been curetted six months before. The doctor in the country who came up to town assured me of the alarming extent of her hæmorrhages. All the usual remedies of ergot, rest, hydrastis, and hot douches were tried. At the end of six weeks the bleeding became markedly less. She was then sent to Woodhall Spa to recover, but in June she was again brought up to town by her husband and her medical attendant as she had suffered from another severe attack of hæmorrhage.

Dr. William Playfair saw her with me at this time in consultation and advised hysterectomy. Dr. Hugh Playfair assisted me at the operation. The recovery was without incident, and she is now restored to perfect health.

The following are the notes of the histological changes of the uterus: It measured 3 inches in length. There was nothing noticeable in the endometrium, but the changes in the uterine wall are the most remarkable that I have ever seen, and I have examined a very large number of uteri. There is under the low power very extensive degeneration of the whole of the uterine wall. Scarcely any muscle-fibre is to be detected at all, only faint traces here and there are to be found. There is an enormous increase of small vessels and dilated lymphatics. In whatever part of the section one looks it is literally studded with small spaces. The arterial walls are greatly thickened, and this thickening, as is almost universally the case in all instances that I have examined, is chiefly in the middle coat, and under the high power this middle coat is itself undergoing

degenerative changes. In some parts of the field an exaggeration of that condition described in the last case may be seen. Here and there may be seen the remains of muscle-tissue arranged in small patches. There has evidently been an immense overgrowth of intermuscular connective tissue which has undergone degeneration. This degeneration closely resembles in appearance hyaline degeneration. In the photographs which have been taken both under the high and low power these changes that I have described are very well shown.

The hæmorrhage from this patient was, with one exception, the most severe that I have ever seen, and that exception took place in a patient of Dr. Eden's, a good many years ago, when I was at the Chelsea Hospital for Women, as pathologist, in which changes very similar to those I have described were found.

From a study of the clinical history, together with the pathological changes of these cases, of which I have selected the most striking as illustrations, I have arrived at the conclusion that chronic infective metritis may be responsible for the hæmorrhage occurring from uteri in which no malignant disease can be found, and which are not the seat of fibro-myomata.

In all the cases that I have studied there has been a history of infection of some sort or another.

I have searched diligently and spent many hours in the endeavour to discover some micro-organism, but hitherto I have not satisfied myself sufficiently to be able to demonstrate it, although in some of the slides from the first case that has been described, which have been stained especially for micro-organisms with Gram, I have found something very suspiciously like a streptococcus.

There can be little doubt as to the cause of infection in the last patient. She was evidently a victim of a gonococcal infection which must have been extremely acute to have wrought such devastation in her uterus as can be demonstrated by the microscope.

In the earlier part of this paper I referred to the age

of the patient as an important factor. It is clear that these cases stand in a category altogether outside the hæmorrhages of the climacteric period of Dr. Freeland Barbour's case or of the arteriosclerosis group of Dr. Palmer Findley, or of Gottschalk, whose patients were fifty-six and sixty. Indeed, if the reading of these cases be true, age has nothing to do with the condition.

I do not suggest that I am describing a new disease. All I claim is that these cases, instances of which have probably occurred to all or most of us, merit being placed in a class of their own, and I have suggested the title "chronic infective metritis," because it appears to be the most inclusive term, and consistent with general pathology.

It is true that Mr. Bland-Sutton's cases of fibrosis come into this category, but the term "fibrosis" would exclude the first of my cases and the last of them, whereas I cannot help thinking that his is only one stage, and that the middle stage of a process of inflammation of the uterine wall, of which round-celled proliferation is the first, intermuscular fibrosis is the second, and degeneration of this fibrous overgrowth is the third or final stage. That these three stages gradually merge the one into the other and that two of them may and do exist in the same uterus is evident from a close study of the histology of these cases, for in my first case there is evidence by a larger grouping of round cells that fibroblasts, which eventually develop into fibrous tissue, are in the process of doing so; and in the second case where the fibrous tissue is the most prominent feature, there are fields illustrating the maturity of the first stage and the infancy of the third, but the case which affords the best opportunity for studying the whole process of inflammation is provided by the section of the tubercular uterus which I showed at the October meeting. There the infection was probably primarily tubercular. I say probably because it was most in evidence in the endometrium, and the history of tubercle was absolutely complete in other organs of the body, but this is by no means certain, for

the patient was the subject of complete procidentia. The uterus was outside the vulva. It was exposed to a mixed infection and might easily become the seat of tuberculosis superimposed upon an already diseased organ, but in any event whether the tuberculosis was primary or secondary, the histological appearances are those of "chronic infective metritis."

With regard to treatment, it is clear that after all palliative measures have been tried and persevered with hysterectomy is the only course that is open to us.

Drugs and curettage, local treatment by douches, tampons of glycerine and ichthyol, and various intra-uterine medicaments should all be given a fair chance; but if the hæmorrhage is severe, persistent, and uncontrollable, then I think one should not hesitate to advise and perform hysterectomy, for I take it that the responsibility of declining to perform an operation of the necessity for which one has convinced oneself is at least as great as the responsibility of performing an operation of the necessity for which one is in doubt.

Dr. Blacker thought that they were much indebted to Dr. Addinsell for having brought this important subject before the Society and for the very interesting demonstration he had given them. The subject was of interest from both the clinical and pathological point of view—clinically because of the difficulties attending the treatment of these cases, and pathologically because of the obscurity which enveloped, not only the nature, but also the etiology, of the changes met with in the uterine tissues. A good deal of confusion had been introduced into the subject by the fact that different authors had described very varying conditions under the same name. Indeed, Dr. Addinsell himself had not lessened the confusion, because, whilst he said in his paper that the condition he was describing was the same as the angiosclerosis of Palmer Findley and others, yet he wished to label it by the new name of "chronic infective metritis." It would seem that there were at least four separate pathological conditions associated with the one symptom of intractable hæmorrhage. In the first place, there was the condition of angio- or arteriosclerosis of the uterus, met with chiefly in women at or near the menopause, and characterised by hyperplasia of the connective tissue, necrosis of the muscle

elements, hyaline and calcareous degeneration of the walls of the arteries, and marked thickening of their internal coats. Secondly, there was the condition of which two very interesting examples had been recorded by Pozzi and Latteux, with some very good illustrations, in which the most marked change was a great increase in the elastic tissue in the walls of the vessels and an increase in the amount of elastic tissue in the intermuscular connective-tissue spaces. Pozzi, who called his cases "hæmorrhagic metritis," thought that the change in the vessels was the explanation of the bleeding, but Szazs-Schwarz, of Buda-Pest, who had written some important papers on the pathology of the muscle-tissue of the uterus, had pointed out that the changes described by Pozzi were to be found in the uterus of every woman who had borne a child, and that the amount of elastic tissue present increased with each successive pregnancy. Thirdly, we had the condition, of which a most striking example had been published by Szasz-Schwarz himself, in which, beyond some general enlargement of the uterus, there was no morbid condition demonstrable. In this case the patient, a nun, aged 38, had the uterus removed for intractable hæmorrhage after having been curetted three times without result. On removal, the organ was found to be rather larger than the virgin uterus usually is at that age, but microscopical examination failed to show any definite morbid change in the muscular tissue, connective tissue, or the mucous membrane of the uterus. Fourthly, there was the condition which Dr. Addinsell had just demonstrated to them. As it was of the utmost importance that they should know, in discussing this question, precisely which of these various conditions they were really dealing with, he wished to ask Dr. Addinsell if he had taken the precaution to cut control sections from the uteri of women, of the same age as his patients, who had borne children but who had not had pelvic peritonitis, and who had not suffered from uncontrollable hæmorrhage; also if he had taken the further precaution to stain some of his sections with the special stains for elastic tissue, such as that of Weigert, so as to prove that he was not dealing, on the one hand, with the effects of presenility or, on the other hand, with the results of child-bearing. Changes quite similar to those described by the author of this paper had been described by various writers, and on the whole they seemed divided in their opinion as to whether the changes were due to some infective process or merely to passive congestion of the uterus. It was strange if they were due to infection that most of the changes seemed to be situated in the outer layers of the muscular coats and not in the mucous membrane or in the layers of muscle-tissue immediately beneath the mucous membrane. They were situated, therefore, precisely in that part of the uterus in which the changes due to presenility or to child-bearing were usually found. The subject

was one of great difficulty, mainly owing to the fact that our knowledge of the changes occurring in the wall of the uterus as the result of pregnancy at different ages was still very incomplete. He thought that more evidence must be forthcoming than that adduced by Dr. Addinsell before it would be possible to accept as proved the view that these changes were really due to some form of infection. With regard to the treatment of these cases, there was one very valuable mode of treatment which apparently Dr. Addinsell had not resorted to, namely steaming the uterus. If steaming the uterus was ever justifiable or indicated, it was precisely in these cases, where the only other alternative was hysterectomy, that it should be carried out. In the last edition of 'Atmokausis and Zestokausis,' by Pincus, there were numerous cases of this kind described, in which very good results were obtained by the use of steam. In a case of his own Dr. Blacker had used this mode of treatment with great benefit to the patient. She was a lady, aged 40, who had had four children and several miscarriages, and had suffered from excessive menorrhagia for many years. On previous occasions she had been treated with intra-uterine injections of some iron salt, apparently the perchloride, and she had also been curetted by another obstetrician without any permanent benefit. In July, 1903, when Dr. Blacker saw her, the periods were occurring every three weeks and lasted eight to fourteen days; the loss was very severe and the patient was practically a chronic invalid. There was no evidence of the presence of any fibro-myomata. The uterus was curetted and steamed for ninety seconds with steam at a temperature of 120° C., and for the next two or three periods the loss was much less. In October, however, the amount of blood lost was even more than before the operation, so in November the uterus was again steamed, without curettage, this time for ninety seconds, with steam at a temperature of 120° C., and then, after an interval of four minutes, for 120 seconds, with steam at the same temperature. Since that time—November, 1903—there had been no return of the bleeding and the patient was now in the best of health. Dr. Blacker felt sure that if in any future cases of this kind Dr. Addinsell would try the effect of steaming the uterus, if necessary repeated, he would not be compelled to resort to hysterectomy.

Dr. Griffith said that everyone must agree with Dr. Addinsell that there is a very small group of cases of uncontrollable hæmorrhage for which hysterectomy is the only cure. The greatest care was needed in the selection of these cases, as there appeared to be a tendency on the part of some surgeons to remove the uterus in cases of simple hæmorrhage, in which ordinary treatment had not been tried. To perform hysterectomy in a case of simple subinvolution was absolutely unjustifiable. Dr. Griffith did not agree with the pathological views of

Dr. Addinsell. His numerous photographs were intended to show three types of microscopic changes in structure, two of which were amply demonstrated—the changes in and around vessels and changes in and around the muscular tissue, while the changes in the glands which he described were not shown by the sections. Dr. Griffith was not prepared to accept these changes of structure as peculiar to the cases of intractable hæmorrhage, for they were commonly seen in many other conditions. He could not accept the infective theory, for in the numerous cases of direct infective inflammation that he had seen this kind of hæmorrhage was unknown.

Dr. Eden said he agreed with the criticism offered on Dr. Addinsell's paper by Dr. Blacker. He could not accept the view that the changes in the uterine musculature shown by Dr. Addinsell were inflammatory in their nature. The three important changes which the author had demonstrated were—(1) obliterative endarteritis; (2) increased vascularity as shown by the large number of vessels; (3) (in some of the sections) areas of degeneration. None of these changes were necessarily inflammatory, and, as a matter of fact, they had all been previously demonstrated in the tissues of uterine fibroids, and in the muscular wall adjacent to them, in cases where there was no evidence of the presence of any inflammatory process. He doubted whether the author's sections really showed round-celled infiltration of the tissues of the muscular wall. The real difficulty in interpreting histological detail in the uterine wall was due to the fact that no precise study had ever been made of the uterine tissues at different stages of the fertile period of life. The same difficulty had at one time been met with in the case of the placenta, with very confusing results, for appearances at one time regarded as pathological were ultimately shown to be of constant occurrence in the healthy organ at certain periods of its growth. Until such a study of the uterus had been made he did not think the appearances shown by Dr. Addinsell could be rightly interpreted. At the same time, Dr. Addinsell deserved great credit for the careful manner in which he had observed and recorded his cases.

Dr. Addinsell thanked the President and the other speakers for the kindly tone of their criticisms; he was anxious to submit the work upon which he had been engaged for some time past to their judgment, and he was not plunged into despair by their remarks. The whole question turned upon the significance of the round-cell proliferation that he had demonstrated. Dr. Eden and Dr. Blacker seemed to regard them as stroma cells—or at any rate thought they might be—but no one had shown that they were present in the normal multiparous uterus, and he (Dr. Addinsell) had examined many multiparous uteri removed *post mortem* with the express object of determining their presence

or absence, and had never yet found them; moreover, the clinical history was quite clear in all his cases of the source of infection, but, to his mind, the question was placed beyond dispute, in some cases at any rate, by the character of the cell itself, which was in many instances polynuclear and manifestly inflammatory. Dr. Addinsell further drew attention to the infective metritis that followed the infection of a fibroid which, when it became septic, infected the uterine wall in exactly the same manner as occurred in the cases under discussion. He hoped to be able to demonstrate this point to the Society on a future occasion.

MAY 2ND, 1906.

W. R. DAKIN, M.D., President, in the Chair.

Present—31 Fellows.

Books were presented by the Massachusetts General Hospital Staff, Prof. Vicarelli, Dr. Emmet, and Dr. Russell Andrews.

George Ernest Aubrey, M.B., B.S.Lond. (Chelmsford), was declared admitted.

Evelyn Lancelot Adams, M.D., B.S.Lond. (Croydon), and Ida Russell Shields, M.B., B.S.Lond., were elected Fellows of the Society.

THREE CASES OF EPITHELIOMA OF THE VULVA, WITH AFTER-HISTORIES.

By ARTHUR H. N. LEWERS, M.D., F.R.C.P.

CASE 1.—P. J—, a married woman, aged 47, was admitted into the London Hospital on December 5th, 1896. She had been married twenty-four years, and had had five children, the last eleven years previously, also three miscarriages, the last eight years previously. The catamenia had been regular every four weeks until the beginning of 1896. From January to March "nothing

was seen" and she had thought herself pregnant. Two normal periods, however, followed in April and May. Since that time there had been amenorrhœa up to the time of her admission.

Family history.—Her father died at 72 of apoplexy; her mother is still alive, aged 51.

Previous history.—She was born in Bristol, and lived there till she married, in 1873. She had lived all her married life in the East of London. At about the age of eighteen she suffered from marked debility, and about that time also was said to have had typhus fever. After the birth of the second child, in 1877, she had an attack of eczema, affecting the soles and the palms, which lasted six months, and another attack of it, lasting about four months, during her third pregnancy in 1879. She appeared also to have suffered from attacks during the seven years prior to her admission.

She was perfectly well up to September, 1895. She then had a swelling the size of a hen's egg underneath the left knee, and at the same time she had a bad bilious attack. She was treated for this, and the swelling disappeared. During the same months some small warts made their appearance—five on the back of the left hand, five on the right cheek, and three on the right labium majus. Those on the hand and cheek were scraped away by the patient herself with the finger-nail, and the scars left from this looked like small burns. Since that time all traces of the warts on the cheeks and hands had disappeared. The warts on the vulva, however, had remained quite small until July, 1896; then they began to increase in size, and finally coalesced, forming a single patch. There was little or no pain until ulceration occurred, which was about the beginning of October, 1896.

On admission she complained of a sore place in the external genitals, of a dragging pain in the right groin, and of shooting pains, like knives, in the external parts.

On examination.—On the right side of the vulva there

was seen an ulcerated surface of an oval shape, measuring two inches long by one inch broad. The edge was raised, and somewhat everted. The patch was very markedly indurated. The skin up to the edge of the growth was normal. The ulcer involved the right labium minus slightly. The glands in the right groin could be felt, but were not markedly enlarged. On vaginal examination nothing abnormal was detected.

I first saw her on October 29th, 1896, and a second time on December 3rd. The sore place on the external genitals in the interval had rapidly increased in size, and she was advised to come into hospital for operation.

Operation, December 7th, 1896.—The oval patch on the right labium was freely removed by means of Paquelin's cautery, a fair margin of apparently healthy tissue around it being taken away at the same time. The wound was dressed with iodoform gauze, and left to granulate up. At the same time the glands in the right groin were removed.

The patient did quite well and left the hospital on January 2nd, 1897.

She was re-admitted on December 9th, 1898, complaining of a small growth in the external genitals. This second growth began as a small pimple, which was first noticed in the September of 1898, and had increased slowly, compared with the former growth, up to the date of her re-admission. The patient's attention was drawn to the pimple by noticing a slight reddish discharge. Previous to this she had "seen nothing" for eighteen months.

State on admission.—On examination a small growth the size of a cobnut was seen on the left side of the vulva. The growth was hard, and movable, and rather tender when touched.

Operation.—She was anæsthetised on December 11th, 1898, and the nodule was freely excised with Paquelin's cautery. No enlarged glands were felt in the left groin, and nothing further was done.

She went out on December 23rd, 1898.

Re-admitted January 26th, 1899.—She was re-admitted

on this date for the purpose of having the glands in the left groin removed. This was done on January 28th, 1899. The wound left by the operation on December 11th, 1898, had not quite healed, and the surface of it was hard and bled readily. This portion of tissue was, therefore, excised with the cautery, and the base of the wound left was freely cauterised.

The patient went out on February 17th, 1899. The wounds were then soundly healed.

Re-admitted March 7th, 1901.—For the preceding few days she had noticed soreness and irritation about the vulva, and there had been a slight discharge containing blood. She also had had some pain on micturition, because the urine caused the sore place in the vulva to smart.

(I had seen her three months before she was re-admitted, and there was then no evidence of recurrence.)

Present state (*March 9th,* 1901).—On the left side on the inner surface of the labium majus there was a raised red patch about the size of a threepenny-piece. It was very tender. Farther towards the middle line there were two small nodules the size of a pin's head. On the opposite side the skin was excoriated and tender where in contact with the growth on the left side. Very little infiltration was felt round the growth. No enlarged glands were felt.

On the same date the patch described was freely excised with Paquelin's cautery, and the adjacent raw surfaces were also freely cauterised.

To summarise the operations:

The first operation was on December 7th, 1896. At this the growth in the vulva was removed, and also the glands in the right groin.

The second operation was on December 11th, 1898. At this a growth in the vulva was removed.

The third operation was on January 28th, 1899. At this the tissue in the region of the wound, which had not healed and was hard and suspicious-looking, was removed, and also the glands in the left groin.

The fourth operation was on March 9th, 1901. At this a recurrent patch in the vulva was removed.

Since that time I have seen the patient occasionally and examined her, and on each occasion she has been quite well, with no sign of recurrence. The last occasion on which I examined her was March 8th, 1906, five years almost to the day since the date of her fourth and last operation.

Microscopical examination of the growth shows it to be a squamous epithelioma.

Case 2.—E. E—, a married woman, aged 52, was sent to see me by Dr. Jacobs, of Lee, on August 28th, 1899. She had been married twenty-seven years, and had had four children, the last eleven years previously, also two or three miscarriages, all before the date of the last confinement.

Present illness.—She complained of having had a "peculiar swelling" and "appearance" about the private parts for some months. She had had pain in the region of the swelling for eight weeks, and a brownish-yellow discharge for about the same time. Micturition had also been painful for a few weeks. The catamenia had always been regular every four weeks, lasting five days, and the loss had been rather profuse, more especially the last few years. She did not think she had become thinner. Her father died of cancer of the liver.

Present state.—On examination a rounded projecting growth was seen in the region of the glans clitoridis slightly to the right of the middle line. Its surface was slightly warty and the growth was superficially ulcerated. The growth measured 1 inch from before back and $\frac{2}{3}$ inch transversely. The upper portion of the growth was separated from the lower portion by a deep natural fissure, which was not ulcerated. The growth was hard, and dusky-red where ulcerated. It did not bleed very readily on touching. Its base seemed quite free from the subjacent tissues. The skin of the vulva within the labia

majora as far back as the termination of the nymphæ was whitish and had a macerated appearance. The glands in the right groin could be distinctly felt, two or three of them seemed enlarged. One enlarged gland was felt in the left groin.

The patient was admitted into the London Hospital for operation on August 30th, 1899. Her weight on admission was 7 st. 13 lb.

Operation (September 1st, 1899). — The projecting growth above described was held up, and freely dissected from its surroundings with Paquelin's cautery, a portion of apparently healthy skin and tissue being removed with the growth in each direction. The wound so made was also freely cauterised. The glands were also removed from both groins.

The patient left the hospital on September 23rd, 1899.

Subsequent history.—I saw this patient several times during the eighteen months after her operation—the last occasion being on February 2nd, 1901. Her weight then was 8 st. 6 lb. 6 oz. At that time the external genitals seemed quite healthy, and no sign of any growth could be found in the groins, or elsewhere.

I was afraid I had lost sight of her as she had removed from where she had been living at the time of the operation, but through the kindness of Dr. Jacobs I obtained her present address. She wrote to me in a letter, dated March 11th, 1906, and said, "I have not been troubled at all again with my old complaint, and my general health is on the whole good."

In this case, therefore, the interval without recurrence is six years and a half.

Microscopical examination of the growth shows it to be a squamous epithelioma.

Case 3.—A. F—, a married woman, aged 34, was admitted into the London Hospital on March 16th, 1905. She had been married ten years and had had two children—the last five years previously—and no miscarriages.

History of the present illness.—She first noticed a small lump in the private parts between September and November, 1904; it was then about the size of a hazel-nut. For one month the lump grew rapidly, and spread till it attained the size of a five-shilling piece. She had had some pain on micturition at first, but none lately. She had always had some slight, blood-stained discharge since the lump was first noticed. She had had no similar sores elsewhere. She had had no rash, loss of hair, or sore throat. She had had pain in the lump at times. The catamenia began at sixteen, and were quite regular every twenty-eight days, till the beginning of July, 1904, since when she has "seen nothing." She believes herself to be eight months pregnant.

Present state (March 17th, 1905).—The gravid uterus occupies the greater part of the abdomen, its size corresponding to eight months' pregnancy.

On vaginal examination.—On the posterior part of the right labium majus there was seen a kidney-shaped, raised, red patch, superficially ulcerated, measuring $2\frac{1}{2}$ by $1\frac{1}{2}$ inches. It had a raised, everted edge, with a fair amount of induration round it. The patch also involved the fourchette. Some enlarged glands were felt in the left groin, parallel to Poupart's ligament, but none were felt in Scarpa's triangle. On the right side enlarged glands were felt in both positions.

On March 20th a bright papillary rash was seen on both cheeks, and on the forehead.

March 28th.—The patient has had eleven days' treatment with Hyd. c. Cret., gr. 1, four times a day. The patch on the vulva is unaffected. Enlarged glands are felt in Scarpa's triangle running parallel to vessels on the right side.

Operation (March 31st, 1905).—I cut out the patch widely with Paquelin's cautery, many vessels requiring ligature and many encircling sutures of catgut were used also. I thoroughly cauterised the base and edges of skin adjacent to the wound. Sections of growth showed squamous-celled epithelioma.

April 4th, 1905.—Labour came on, and she was normally delivered of a male living child.

On May 4th, 1905, the glands in both groins and in Scarpa's triangle were removed. Those on the right side were obviously affected, and those on the left were apparently not affected. These wounds healed well, and the patient was discharged.

Re-admitted June 19th, 1905.—The scars in the groins were healthy. There was local recurrence in the region of the right labium majus. The growth measured 2 inches by 1½ inches. Its inner part involved the vestibule, and frænum and prepuce of the clitoris. The growth was freely excised on June 20th, with Paquelin's cautery, and left to granulate up.

On July 4th the surface was granulating nicely; no hard area was felt. She was discharged on July 8th.

I never saw her again; but the Sister in the ward heard she had died with recurrence within three or four months of leaving the hospital. She was in hospital again for treatment with X rays under my colleague Dr. Sequeira from August 11th to September 9th, without benefit.

Remarks.—The history of Case 1 shows very well that local recurrence in cases of epithelioma of the vulva is not necessarily of unfavourable significance. Three operations were performed on recurrent patches in the vulva subsequent to the first, at an interval of about two years as regards the second and fourth; yet an interval of five years without any sign of recurrence has followed the fourth operation. Such a history is in striking contrast to what is met with when recurrence takes place after radical operations for cancer of the cervix. In the latter disease the first operation is the only one likely to be productive of prolonged or permanent benefit. Little or no benefit is likely to follow operative treatment if the disease has once recurred.

As regards Case 2, there was only one operation, and this has been followed by six years and a half without recurrence.

Case 3 is remarkable in being an instance of epithelioma of the vulva occurring in a patient no more than thirty-four years of age. The progress of the disease was unusually rapid in spite of what appeared to be complete removal of the growth on two occasions, and in spite of the removal of the lymphatic glands on both sides. The whole course of the disease, from the time when it was first noticed till the fatal termination, was only a period of some twelve months. It seems probable that in this case the pregnancy may have exerted an unfavourable effect on the disease, stimulating it to an unusually rapid progress. Incidentally it may be noticed that the first operation was followed by the occurrence of labour four days later, showing how likely labour is to be induced by slight operations on the external genitals. This effect was regarded as extremely probable, but the probability that labour would occur was disregarded, as the patient was eight months pregnant, and also on account of the urgent necessity of removing the growth without delay. This case is also an example of a case of superficial carcinoma, which was not at all improved by the X-ray treatment. She had thirteen sittings, each lasting ten minutes. From the superficial position of the growth it would have appeared to be rather a favourable case for this particular form of treatment.

It will have been noticed that in removing the growth from the vulva in all cases Paquelin's cautery was used. I think it is a better instrument for the purpose than the knife or scissors. The subsequent sloughing must be an advantage in removing possible outlying islets of growth that would probably escape removal in performing a neat operation with the knife to be followed by primary union.

Mrs. Boyd congratulated Dr. Lewers on the results obtained in his cases. She had herself operated on several patients with epithelioma of the vulva. One, operated on eleven years ago, where there was no obvious enlargement of glands, needed a second operation within two or three months for a slight

recurrence in the scar, and had since then remained well up to the present time. In a second case, where the disease partook rather of the character of a wart without induration of the base and without involvement of glands, a free excision was made, and the patient, an old woman, aged 75, remained well for some nine years. She then reappeared with malignant ulceration of the scar. In several cases she had been disappointed by recurrences in glands where the local condition remained satisfactory. She thought wide excision of the growth by the knife, with suture, generally resulted in primary union if temporary drainage of the bladder by stationary catheter was adopted, and she considered this method preferable to removal by the cautery, which left a painful and slowly healing wound. The glands, if enlarged, should certainly be removed. She had not always removed the inguinal glands as a routine matter, if not palpable.

Dr. Herbert Spencer supposed that these three cases represented but a small proportion of the cases which Dr. Lewers had treated. He (Dr. Spencer) had formed an opinion that the prognosis was grave. He (Dr. Spencer) did not think he had treated more than ten cases. One had remained well for eight and a half years, and another was well three years after operation, and might be so still. In another case several operations had been performed and the patient now, thirteen years after the first operation, had recurrence in the pelvic glands. The degree of malignancy varied a good deal, and a note by Dr. Fairbairn in the May number of the 'Journal of Obstetrics and Gynæcology of the British Empire,' dealing with some cases from Landau's clinic, showed that local recurrences might occur after five and a half years. Before reading this note he had thought that cases in which the glands were affected always recurred. He did not think the cautery was so good as the knife in these cases; he had used it to check hæmorrhage from the crura of the clitoris, but preferred to excise the growth with the knife. In his opinion the whole of the vulva should be removed, so as to get rid of the leukoplakial skin which was usually present. He thought, also, it was well to remove the inguinal glands, although a complete removal was, he thought, practically impossible.

Dr. Inglis Parsons said it was now known that cancer could be inoculated. If the knife were used to remove the growth, it might pass through some small islet of growth, although apparently clear of the tumour, and by this means inoculate some healthy tissue. He believed many recurrences were produced in this way. With the cautery this was impossible. He quite agreed with Dr. Lewers that it was by far the best method when possible, and had in his hands produced much better results than the use of the knife.

Dr. Lewers, in reply, said that he thought Paquelin's cautery was a better instrument for operating in the cases than the knife,

as the subsequent sloughing removed a layer of tissue beyond the line of section. This sloughing, of course, did not occur if the knife were used. The cautery had the advantage, also, that less blood was lost, a particular advantage when operating in such a case as No. 3, where, owing to the pregnancy, the parts were extremely vascular.

TWO SPECIMENS OF LARGE UTERINE FIBROIDS UNDERGOING NECROBIOSIS OR RED DEGENERATION.

Shown by Dr. Lewers.

In Dr. Fairbairn's interesting paper on this subject in the 'Journal of Obstetrics' for 1903 nineteen examples of this degeneration of fibroids are dealt with. In the greater number, fourteen out of the nineteen, the patients from whom the specimens had been removed had been previously pregnant. In the two specimens I show this evening, as regards the first the patient had had four children, while in the second case the patient was a nullipara.

In the first case symptoms appear to have begun during a pregnancy. At all events, the patient had pain in the abdomen and vomiting throughout the whole pregnancy, and after the labour she was feverish and had great pain in the abdomen, compelling her to remain in bed six weeks.

In the second case, that of the nullipara, pain in the abdomen was the first symptom, and retention of urine. In this case menorrhagia was a marked feature, and the patient when admitted to the hospital was profoundly anæmic. A curious feature in this case was the transient presence of pus in the urine, and equally in the urine secreted by each kidney; after nine days' rest in bed and before the operation, the urine became quite normal.

An interesting question is as to the relation this red degeneration bears, if any, to the sloughing *en masse* of

interstitial fibroids that occurs occasionally. Is the sloughing a later stage of this red degeneration, or is it brought about in some other way?

The notes of the cases from which the specimens were removed are as follows:

Case 1.—S. M—, aged 41, was admitted into the London Hospital on March 31st, 1905. She had been married twenty-one years, and had had four children, the last five months ago, and no miscarriages.

History of the illness.—The patient noticed a lump in the abdomen after the delivery of the second child, sixteen years ago. The lump had caused no trouble in the pregnancies or at the delivery of the third child, twelve years ago. In fact, she had had no trouble till the last pregnancy. During the last pregnancy she had complained of pains in the abdomen and vomiting. She was not obliged to go to bed, and the vomiting was not worse than in the previous pregnancies, except that it lasted throughout the whole pregnancy. After the last confinement she had been obliged to stay in bed six weeks. She had been feverish, and had great pain in the abdomen. Her doctor told her it was "inflammation." Since the last confinement she had lost blood every day for three months, then there was nothing for three weeks, then bleeding came on again, lasting a fortnight. After stopping for another three weeks bleeding came on again, and again lasted a fortnight.

On admission the following note was made: "There is a tumour rising from the pelvis and reaching as high as the umbilicus. It has the general characters of a solid tumour, and is soft in places. It is fairly movable. On vaginal examination the tumour moves with the uterus, and is evidently a uterine fibroid."

On April 6th supra-vaginal hysterectomy was performed. The right ovary was not removed. The left ovary was removed with the tumour. On examination of the specimen after removal it was found that there was an interstitial fibroid about the size of the fœtal head at term situated

in the anterior wall of the uterus. On section it showed red and brown degeneration, its appearance being like that of unwholesome raw meat. The whole tumour was affected by the degeneration.

The patient made a good recovery and left the hospital on May 3rd, 1905.

Dr. R. D. Maxwell prepared a section of this tumour, which is shown this evening under the microscope, and gave me the following description of the section:

"The microscope section shows the growth to be a fibro-myoma, with a very considerable proportion of involuntary muscle-fibre present. The section is stained with hæmatoxylin and van Giesen's stain, and shows many bundles of fibrous and involuntary muscle-tissue, the ground substance of which stains fairly well with the latter stain, but prolonged subjection to hæmatoxylin fails to demonstrate the nuclear substance, which is characteristically indifferent to hæmatoxylin."

Case 2.—A. M—, a single woman, aged 36, was admitted into the London Hospital under my care on January 13th, 1906. She was sent up to see me by Dr. Allen and Dr. Maxwell, of Southend.

History of the illness.—She complained of swelling and pain in the lower abdomen. She first noticed the swelling last August—*i. e.* about six months ago. Her attention was drawn to it by severe pain in the right side of the abdomen, and by retention of urine, which was relieved by passing the catheter. The attacks of pain lasted on and off throughout August. The pain was worse on walking about. The patient has been losing too much lately. Three weeks ago flooding began, and lasted a week. Since then there has been a constant daily discharge of blood. She also had flooding in June and July last, lasting six weeks. The catamenia appeared when she was thirteen years of age. She was regular every three weeks, the period lasting five days. The discharge was not excessive, and she had then no pain. There has

been a green discharge for the last three months. A few days prior to her admission she had had frequency of micturition, both day and night. When she first noticed a lump in her abdomen (last August) she thinks it was about a quarter of its present size.

Previous illnesses.—She had rheumatic fever seven years ago, and hæmorrhage "from the stomach" five years ago.

State on admission.—She was remarkably anæmic, and her condition was so unsatisfactory that she was kept at rest in bed for three weeks before I decided to operate. During that time her temperature was daily above normal, the highest point being 101° F. It reached 100° to 102° F. nearly every evening, and sank to normal in the morning. The pulse varied from 96 to 120.

On examination of the abdomen a tumour was felt rising out of the pelvis as high as two fingers' breadth above the umbilicus, and reaching outwards as far as the anterior superior iliac spine on each side. The tumour had a vague elasticity.

On vaginal examination the cervix was high up and far back. The anterior fornix was bulged downwards by a convex swelling continuous with the tumour described in the abdomen. The whole of the tumour had only a slight degree of mobility.

January 15th, two days after admission.—The urine was acid, specific gravity 1022, and contained about a half albumen. Under the microscope blood-corpuscles, pus-cells, and granular casts were seen.

January 19th.—The urine was drawn off with a Bar et Luys intra-vesical separator by Dr. Maxwell; it seemed to flow more freely from the right half of the bladder than from the left. There was no difference in the naked-eye appearances of the specimens. Both specimens contained pus. They were examined bacteriologically, and a few colonies of micrococci were present in each, but no *Bacilli coli* or streptococci were found in either specimen.

A remarkable point was that about the 22nd, and

subsequently throughout her stay in the hospital, the urine was completely free from albumen.

There was evidence of mitral stenosis.

Further information supplied by Dr. Maxwell, of South-end.—He saw the patient on December 1st, 1905. Her pulse was 130, temperature 102° F. She was losing blood very freely, and was very much blanched. Two pints of saline solution were injected into the rectum. After this flooding he found the circumference of the abdomen over the most prominent part of the tumour had increased by three inches. At that time the tumour was very tender, and the patient vomited continuously for almost two days. During this time there was practically incontinence of urine.

The diagnosis arrived at was that the patient had a uterine fibroid, possibly softening, or undergoing cystic degeneration.

Operation, February 2nd, 1906.—On opening the abdomen the tumour was found to be a large uterine fibroid of the posterior wall. Supra-vaginal hysterectomy was performed in the usual manner, the right ovary being removed with the tumour. When the mass was cut free from the cervix some muddy fluid, not red, from the endometrium escaped. This had an unpleasant odour somewhat similar to that noticed when the section of the tumour was made afterwards. The abdomen was closed, and the operation was completed in the usual manner. The wound was completely closed without drainage.

The mass removed was about the size of a pregnant uterus at six months. On section there was seen a large fibroid undergoing degeneration and softening. The surface of the section presented definite cavities, where the tissue had broken down, and these cavities were filled with a thickish fluid of a raspberry colour. The mass had a curious fish-like odour. The rest of the surface of the tumour, where it had not broken down, was of a deep red raspberry colour. The whole tumour was affected by the degenerative process.

The patient made an uninterrupted recovery. The temperature for the first eight days reached 100·4° F. at some part of the twenty-four hours. After that it became normal, except during two days in the third week, when she suffered from a slight attack of rheumatism in the fingers. After that the temperature was normal, and she left the hospital quite well on March 2nd, 1906.

A portion of the tumour was sent to the Laboratories of Pathology and Public Health and the following report was received:

"The muscle has undergone necrotic change which gives it an opaque hyaline appearance. The nuclei of the fibres for the most part are shrunken, and where the strands of the hyaline degeneration are most pronounced the nuclei have for the most part disappeared.

"(*Signed*) C. L."

CERVICAL FIBROID.

Shown by Dr. Frederick J. McCann.

The tumour was removed from a woman aged 45, who for eight months had suffered from profuse uterine hæmorrhage, difficulty in walking, lassitude, sickness, and hypogastric pain. Her menstruation, which had been previously regular, lasting seven days and profuse in amount, had for eight months been so profuse and long continued that only three or four days' interval was noted.

She had in May, 1905, an attack of retention of urine, lasting forty-eight hours. Attacks of retention occurred at intervals until November, 1905, when the catheter had to be used night and morning for three weeks. After the retention disappeared she had great difficulty in walking.

Per hypogastrium.—A large solid tumour was felt

extending out of the pelvis and reaching three fingers' breadth above the symphysis pubis, and situated on its summit somewhat to the left side was an elastic movable pyriform swelling.

Per vaginam.—The upper half of the vagina was widely expanded and occupied by a solid tumour the size of a fœtal head at term, which was continued into the tumour felt *per hypogastrium*. The finger could not reach the os externum, which appeared to be situated high up behind the symphysis pubis. The tumour appeared to be moulded to the shape of the pelvis.

The tumour was removed on January 24th, 1906, by abdominal pan-hysterectomy. The patient made a good recovery.

The specimen consists of the uterus perched on the summit of a solid tumour measuring 6 inches by $4\frac{1}{2}$ inches. A vertical median section was made through the uterus and tumour in order to demonstrate its relations. The tumour, a myoma, springs from the posterior lip of the cervix and has burrowed underneath the peritoneum superiorly, whilst inferiorly it extended down into the upper part of the vagina. The anterior lip of the cervix is not affected and the position of the external os is high up in front of the tumour.

The cut surface shows the typical structure of a myoma, whilst a small myomatous nodule is seen in the fundus of the uterus.

BROAD LIGAMENT CYST WITH TORSION OF THE PEDICLE AND EXTENSIVE HÆMORRHAGE INTO THE BROAD LIGAMENT.

Shown by Dr. Frederick J. McCann.

The tumour was removed from a woman aged 34, who had had five children whose ages varied from thirteen to two years.

Three weeks after her last confinement she began to suffer from pain in the left side of the lower abdomen. This pain recurred about a fortnight before each menstrual period and disappeared when the flow was established. Although the pain caused her to feel sick she did not observe any swelling of the abdomen.

In November, 1904, owing to the severity of her suffering, she was seen by her medical attendant, who detected a movable cystic swelling on the left side of the lower abdomen with a definite outline; the uterus was retroverted and pushed towards the right by the cyst, which occupied the left half of the pelvis. The pain gradually subsided, but two days later she was awakened from her sleep at 4 a.m. with intense pain and inability to pass water. When seen by her doctor she was collapsed, features pinched, skin cold and clammy, pulse small and running. A hypodermic injection of morphia was given and hot fomentations applied. I was telephoned for in the morning and decided to operate at once as a diagnosis of pedicle-twisting was made. On opening the abdomen the swelling, of a deep leaden hue, presented at the incision, and on exposing it more thoroughly the pedicle was found to have two well-marked twists in it. It was ligatured in the usual way and removed. The patient recovered and has remained well.

Description of specimen.—The specimen consists of a median-sized unilocular cyst, containing intra-cystic papillary growths, which has burrowed between the layers of the broad ligament. There is extensive extravasation of blood in the broad ligament outside the cyst, forming a retort-shaped swelling surrounding the cyst for about two thirds of its extent. The Fallopian tube is stretched over the cyst and its fimbriated extremity is markedly hypertrophied. Close to the position of the pedicle an ovoid body the size of a normal ovary is seen which on section shows Graafian follicles. The pedicle is infiltrated with blood.

The specimen was referred to the Pathology Committee.

PRIMARY CARCINOMA OF THE VAGINA.

Shown by Dr. Frederick J. McCann.

The patient was a married woman, aged 33, who had borne three children, the youngest being nine.

Three years before she was seen by me she began to suffer from backache and vaginal discharge. This discharge was thick, dark in colour, at times offensive and for a period of twelve months was definitely blood-stained.

For the last two years her health had been unsatisfactory, as she felt weak and unable to exert herself.

Vaginal examination revealed a smooth, raised growth, reddish in colour, bleeding readily, and exhibiting commencing necrosis at its lower pole. It was about ¾ inch by ½ inch in size and was situated in the centre of the upper fourth of the posterior vaginal wall. Between the growth and the cervix uteri the mucous membrane showed marked development of the papillæ so as to resemble in appearance the surface of a cat's tongue. One or two leucoplakial spots were noticed close to the tumour. The cervix was not affected and the uterus was movable and of normal size.

Operation (April 13th, 1904).—In order to remove the disease with a margin of sound tissue the usual anterior incision was made in front of the cervix and the utero-vesical pouch opened after separation of the bladder. The body and fundus of the uterus were then pulled into the vagina and the broad ligaments tied in segments from above downwards and the uterine artery secured on each side. The posterior vaginal wall was divided laterally and the uterus and attached wall of the vagina pulled downwards. The latter was then divided below the growth from inside the pelvis, thus freeing the uterus and about two inches of posterior vaginal wall attached to it. All bleeding points were secured and the peritoneum united to the vaginal wall by cat-gut sutures. A strip of

iodoform gauze was left in the vagina for forty-eight hours. The patient made a good recovery.

I saw her in April of this year (1906) two years after the operation, and there is no sign of recurrence. The upper part of the vagina is occupied by a transverse linear scar and the local condition is so favourable that in all probability the cure will be permanent.

The specimen consists of the uterus with about two inches of the posterior vaginal wall attached to it. The size of the uterus is normal and there is no evidence of disease in the body or cervix.

The growth is seen occupying the position on the posterior vaginal wall already described, and from a close examination of the specimen the disease appears to be spreading in the direction of the cervix. This seems to be the direction in which primary cancer of the vagina advances when situated in the upper segment of the canal, and for this reason it was deemed advisable to remove the uterus. Moreover the cessation of all discharge from that organ will prevent any irritation of the vaginal mucosa.

The microscopic sections exhibited show that the growth is a squamous carcinoma, typical cell-nests being noted.

MYOMA OF THE VAGINA.

Shown by Dr. Frederick J. McCann.

This tumour, the size of a billiard ball, grew from the anterior vaginal wall and protruded through the vulva. The lowest and most dependent portion exhibited necrotic changes, thus giving rise to the suspicion that it might be a sarcoma.

It was removed by enucleation, together with about an inch of vaginal wall surrounding the necrotic area.

On section it is seen to be myomatous in nature, which was confirmed by microscopic examination.

The patient from whom the tumour was removed was thirty-three, and had suffered from a vaginal discharge for six months.

LARGE FIBRO-MYOMA OF UTERUS REMOVED BY OPERATION.

Shown by Dr. Walter Tate.

This specimen was removed from a patient aged 41, who had had three children. The tumour was first observed nine years ago before the birth of her last child. She was seen by a specialist at this time, and as there were no serious symptoms no surgical interference was advised. The subsequent pregnancy and labour were not attended by any complications, and as the tumour appeared to diminish somewhat in size after the child was born, she was advised to wait events. Soon after this the tumour again began to increase in size, and has continued to do so steadily during the past eight years. Acting on the advice which had been given to her, she postponed seeking any further special opinion, in the hope that the tumour would cease to trouble her after the menopause. During the last two years the tumour had increased much more rapidly, and was associated with marked loss of flesh and failure of general health. Quite recently the patient had come under the care of another medical man, and he at once recognised the serious effect of the tumour on the patient's health, and advised a consultation with a view to deciding the question of removal. On examination the patient was greatly emaciated and looked ill and anxious. The abdomen was enormously distended by a very large tumour which was distinctly lobulated and in parts elastic. The tumour encroached to some extent on the true pelvis.

Abdominal hysterectomy was performed on March 31st,

1906. The tumour had burrowed under the right broad ligament and had raised the peritoneum from the floor of the pelvis and the right iliac fossa. Owing to the position and mode of growth of the tumour, a very extensive enucleation was required, and the operation was rendered both difficult and dangerous. The patient, however, made a good recovery. The danger of the operation would have been much lessened had operative treatment been recommended at an earlier period, before the tumour had reached such a large size, when there would not have been such extensive burrowing of the tumour beneath the peritoneum. The tumour removed measured 11 × 10 × 10 inches, and weighed 22½ lb. The uterus, with the Fallopian tubes and ovaries, was easily defined at the posterior and lowest portion of the mass. The main mass of the fibroids grew from the anterior upper and right side of the uterus. On section the tumour showed evidence of œdematous infiltration, to such an extent that over four pints of fluid escaped from the cut surface within an hour after it had been incised.

A CASE OF FIBRO-MYOMA OF THE VESTIBULE.

By J. Inglis Parsons, M.D.

Mrs. R. S—, aged 30, came into the Chelsea Hospital for Women on February 24th, 1906, complaining of a swelling in the vulva.

She was married at twenty-five and had three children, all living. No previous illness to speak of. No difficulty in micturition. Menstruation regular and normal in amount.

The swelling was first noticed six months ago and has gradually increased.

On examination a small swelling was found the size of

a walnut in the vestibule of the vulva projecting forward and pushing down the urethra.

February 27th.—Under ether a vertical incision was made and the tumour enucleated from its bed. Although close to the urethra below it and the clitoris above it, it appeared to be quite separate from both.

The patient made a good recovery and left the hospital on March 12th.

Pathological report on the tumour from P. S—, February 27th, 1906: "The specimen consists of a hard tumour, ovoid in shape, measuring $1\frac{1}{4}$ in. × $\frac{3}{4}$ in. The external surface is ragged and irregular. On section the tumour is firm and hard, being white and whorled, presenting the appearances characteristic of a fibro-myoma. Near one is a hard, irregular, calcareous nodule, grating under the knife, of the size of a pea."

Microscopically the section is composed of fibro-muscular tissue arranged in interlacing bundles, running in all directions. The majority of the muscle-bundles stain normally. Amongst these are other bundles which take the stain diffusely, the cell outlines being indistinct and the nuclei having disappeared.

The tumour is therefore a fibro-myoma undergoing slight hyaline degeneration, and containing a small calcareous nodule.

THE USE OF LAMINARIA TENTS.

By Sir William Sinclair, M.D.

Sir William Sinclair introduced the subject of laminaria tents for the purposes of diagnosis and treatment in disease of the non-pregnant uterus. He believed there was no known substitute for the laminaria in gynæcology, as there was no substitute for opium and its derivatives for the relief of pain.

It was to be hoped that the "fashion" of rapid

mechanical dilatation with screw contrivances and graduated bougies had run its course and that its memory would remain only as a discreditable episode in the history of gynæcology. He drew an analogy between the rapid methods of dilating the non-pregnant uterus and the unnecessary and injurious employment of forceps, Bossi dilators, and such-like mechanisms in midwifery practice.

The almost invariable reply to inquiries from those who had largely or entirely given up the use of tangle tents was that they produced sepsis. No opinion could be more erroneous or based on a more slender foundation. The objections might be traced to two causes—one historic, the other practical and remediable. The latter depended upon the prevailing method of manufacture. Tangle tent-making has been for long a German domestic industry without competition, and consequently the tents at present supplied to us are dear and dirty. The historic cause of suspicion was extremely interesting to trace, but could not on the present occasion be recorded in detail. Concisely stated, it amounted to this: Even the pioneers of gynæcology in Scotland, such as Simpson, Keiller, and others, were in the habit of using the same tents more than once without disinfection; they were at work before Lister and antisepsis; they often used tents under conditions which we now recognise as contra-indications; and their technique in introducing them was always extremely defective, and frequently such as to court disaster.

It was suggested that one reason why tents are so much more commonly used in Germany at the present day than in this country was that "Listerism" took hold in Germany sooner than in England, and the practice of dilatation by laminaria being of later growth in Germany, it did not meet with the same prejudice, because disinfection prevented consequences too familiar at and before that time to practitioners in this country.

The speaker then gave a demonstration of the material which is obtained from Iona, and explained the method of making the finished tent as practised in that island. The

essential point of difference from any previous manufacture of laminaria is that every cell of the tangle is saturated with a disinfectant. Consequently to secure asepsis to the utmost practical extent all that is required is to slightly soften the tent in a hot, strong solution of the same antiseptic immediately before introduction.

The tents are made in the island of Iona from laminaria digitata out of the Atlantic, specimens of which, fresh and desiccated, were exhibited. They have been distributed to a considerable extent to gynæcologists for experimental purposes, and hitherto they have given uniform satisfaction.

The progress of the manufacture of the ordinary tents and of a variety of unusual forms for specific objects is now sufficiently advanced to permit of an early announcement of how the articles are to be distributed and obtained for use by medical practitioners.

Dr. Heywood Smith was sure they would be glad to hear that there was soon to be a good supply of laminaria of an unusually fine quality for tents. The London makers generally sent them out too short, which might lead to their passing beyond the external os, and so rendering their extraction difficult. Hitherto, also, the larger sizes were made by being built up in sections pegged together, a process which might cause irregular dilatation or even to the breaking up of the tent, whereas now they learnt that laminaria could be supplied of very considerable size—quite as large, in fact, as ever would be needed. It was occasionally found in the use of tents that their expansive force was not sufficient to overcome the rigidity of the internal os, and the tent being constricted at that situation into a modified hour-glass form rendered its extraction very difficult.

Dr. Amand Routh had had an opportunity of testing the tents and had found them quite as good as those sold in London. He did not, however, use them as often as Sir W. Sinclair advised, for he had not found that any bad results followed the use of rapid dilatation by bougies, especially if the relaxation of the cervical tissue was insured by the introduction into the vagina of a glycerine tampon two hours previously.

Dr. Boxall remarked that the main objection offered to the use of tents was their inherent possibility of infection. But by dry heat laminaria tents can be not only sterilised but improved in quality, a process which could be accomplished, if necessity arose, in the domestic oven immediately before use.

Dr. Herman did not think laminaria was as much out of fashion as Sir W. Sinclair supposed. It had been used for thirty years or more in the London Hospital. He did not like tents made of several pieces of laminaria glued together, for the glue was very possibly septic; he preferred solid pieces of laminaria. He was surprised to hear anyone say that the dilating force of laminaria was weak, for Matthews Duncan had shown by experiment that laminaria was capable of expanding under a pressure of 640 lb. to the square inch.* He agreed with Sir W. Sinclair that a laminaria tent was the best way of dilating the cervix of the unimpregnated uterus when required for the purpose of exploration.

Mr. W. Gandy expressed his satisfaction that the use of the laminaria tent should have been discussed, and felt much interested in Sir William Sinclair's description of their manufacture. Some years ago he used nothing else to dilate the cervix, and he felt that with ordinary care, to avoid sepsis, there could no harm befall the patient. He wished to ask Sir W. Sinclair if he considered the dilatation by this means sufficient for the purposes of curetting.

Dr. Inglis Parsons found that the uterus was not damaged by forcible dilatation when it contained anything that required removal, such as retained products of conception or a polypus. For a case of stenosis of the internal os some rupture of the endometrium was liable to occur if too much was attempted at one sitting. He always advised doing the dilatation on two or three occasions, the first time under an anæsthetic, but not beyond the size of a No. 12 male catheter. The two subsequent dilatations could be done without an anæsthetic. His results in stenosis and dysmenorrhœa had been much better than when the dilatation was done at one sitting. One objection to the use of the tent for stenosis was that it sometimes failed to dilate the internal os, and was removed with difficulty on account of the expansion above the constriction. There was no fear of sepsis if the tents were dipped in liquid carbolic. On the whole he thought dilatation with metal dilators was the better method of the two.

Dr. Herbert Spencer was as surprised as Dr. Herman at Sir William Sinclair's statement that laminaria tents had gone out of fashion. They had been used continuously at University College Hospital for the last twenty-five years. Students were taught to use them and were examined upon them, and text-books gave full particulars as to their preparation and use. He could not imagine that any gynæcologist would dilate a rigid senile cervix in order to explore it with the finger by rapid dilatation, which in such a case meant laceration. He thought

* 'Clinical Lectures,' Appendix VIII.

it best to keep the tents in a 1 in 1000 solution of perchloride of mercury in alcohol.

Dr. Tate said that for some years past the use of tents had been given up at St. Thomas's Hospital. One reason was the great pain which the patient experienced during the time they were dilating the cervical canal; another reason was that every now and then unpleasant results followed their use. Dr. Tate had never seen any trouble follow as a result of the slight laceration of the cervical canal which sometimes resulted from the use of graduated metal dilators. He did not believe that such lacerations were a cause of endometritis, as Sir W. Sinclair stated.

Dr. Lewers said it was important to bear in mind the degree of dilatation of the cervix required in choosing between dilatation by rapid method or dilatation by laminaria tent. In many instances it was certainly impossible to dilate the cervix sufficiently to allow of the introduction of the finger into the uterus by the rapid method without causing laceration. It had to be borne in mind that when a laceration occurred it could not be remedied in any way at the will of the operator. It might be a slight and unimportant laceration, or it might extend right through the uterus into the broad ligament or peritoneal cavity. In cases of this sort Dr. Lewers used tents the day before he required exploration, and then, under an anæsthetic if necessary, passed a few sizes of Hegar's bougies.

JUNE 6TH, 1906.

W. R. DAKIN, M.D., President, in the Chair.

Present—44 Fellows and 2 visitors.

Books were presented by the Society of the New York Hospital Staff, Queen Charlotte's Hospital Staff, and the North of England Obstetrical and Gynæcological Society.

Evelyn L. Adams, M.B., B.S.Lond. (Croydon), and A. Louise McIlroy, M.D. (Glasgow), were declared admitted Fellows of the Society.

William Blair Bell, M.D., B.S.Lond., was proposed for election.

Report of the Pathology Committee on Dr. F. J. McCann's Specimen of a Hæmorrhagic Broad Ligament Cyst with Torsion of the Pedicle (*see p.* 179).

WE have examined this specimen and consider it to be an ovarian cyst growing from the hilum and burrowing between the layers of the meso-salpinx. It is unilocular and contains papillary outgrowths. The wall of the lower part is much thickened with extravasated blood.

(*Signed*) F. J. McCANN.
THOS. G. STEVENS.
HERBERT WILLIAMSON.
CORRIE KEEP.

May 16*th*, 1906. W. S. A. GRIFFITH, *Chairman.*

THREE CASES OF GLYCOSURIA OF PREGNANCY.

By Dr. W. H. B. Brook.

In June, 1904, I attended a lady (*a*) in her first confinement, which with the puerperium was in every respect quite natural. The urine, which was examined on several occasions, was quite free from any abnormality.

During the summer of 1905, the patient being in the third month of her second pregnancy, the urine was again examined, and was found to be normal in every respect. At the end of the fifth month she noticed that urine was being passed more frequently and in greater quantity than usual. On examination the specific gravity was found to be 1036, and there was present $2\frac{1}{2}$ per cent. of glucose with a small amount of lactose (Clinical Research Association).

A moderate diabetic diet was ordered, and salicylate of soda was given in combination with bismuth, together with an occasional dose of Pil. hydrarg.

After a week of this treatment the sugar was somewhat diminished in quantity, but the specific gravity was still 1030, and as the reaction was intensely acid magnesium carbonate and potassium bicarbonate were added to the mixture and a strict diet ordered. At the same time codeia gr. $\frac{1}{2}$ was given *ter die*.

The sugar then for a short time was reduced to a mere trace and the specific gravity to 1023.

Bearing in mind, however, the extremely serious view that my teacher the late Dr. Matthews Duncan used to take of glycosuria in pregnancy, a view which he brought strongly before this (the Obstetrical) Society in 1882, it was considered advisable to obtain the opinion of Dr. Champneys and Sir Thomas Barlow, who agreed with my partner (Mr. Charles Brook) and myself that in the light of past experience the presence of sugar in the urine justified our care about the case, which would be best

brought to a successful termination by continuing the anti-diabetic treatment and by taking every precaution to avoid collapse and heart failure at the time of delivery and for some time subsequent.

During the remainder of the pregnancy the urine was repeatedly examined. On only one occasion was sugar entirely absent; it fluctuated in amount, slightly rising a fortnight before delivery.

During the whole of this time the diet was carefully adhered to, and the medicinal treatment continued, except that aspirin was for a time substituted for salicylate of soda.

The patient had an uneventful delivery, and convalescence, except for some slight trouble with varicose veins, was uninterrupted. The infant was not nursed. Six weeks after delivery there was not the slightest trace of sugar, although ordinary carbohydrate food was taken.

By a curious coincidence I had at the same time under my care two other instances of the glycosuria of pregnancy.

The first (*b*) occurred in a primipara, aged 27, who had consulted me on several occasions during the past three years, and whose urine had not previously contained sugar.

On examining the urine at the end of the sixth month I found 10 grains of sugar to the ounce, with a specific gravity of 1033.

The other (*c*) was a iii-para, aged 38, whom I had attended in her previous confinement, and who had then no sugar in the urine; now at the sixth month I found 12 grains to the ounce and a specific gravity of 1035.

Both these patients were put on an anti-diabetic diet. The only medicine given was aspirin (gr. x *ter die*) a drug that I have found of considerable value in diabetes, with an occasional dose of Pil. hydrarg.

In both these cases the sugar was diminished by treatment and at times disappeared, but reappeared at intervals, and was on one or two occasions in fairly large quantity.

Both these patients went to full time, and had uneventful confinements, both nursed their children, and in both there was no return of the sugar.

I have ventured to bring these three cases before your notice *first*, because I can find very little written on the subject of the glycosuria of pregnancy (in the article on "Diabetes" in Allbutt's 'System of Medicine' Professor Saundby mentions these cases as "forming a class to themselves, and whose explanation remains obscure"); and *secondly*, because of the extremely serious view taken of this condition by Dr. Matthews Duncan, the perusal of whose paper caused me considerable apprehension as to how my three patients would pass through their puerperium.

Fortunately, they did well; this may have been due to the fact that the amount of sugar (10 to 12 per cent.) was not very large, and that the condition was discovered in time for steps to be taken to remedy it.

In the discussion which took place after the reading of Dr. Matthews Duncan's paper the question was asked as to whether any rules of treatment could be formulated, but it was not considered that any special rules could be laid down at that time.

Having regard to these three cases, I am inclined to think that careful dieting and the administration of aspirin or salicylate of soda are of the greatest benefit, with an occasional liver pill or Pil. hydrarg.

At the time of delivery I gave a minimum of chloroform, and left with the nurse a hypodermic syringe charged with strychnine to be used if any sign of collapse occurred.

I have to thank Dr. Champneys for the interest he has taken in these cases and Dr. A. E. Garrod and Dr. Hartley of St. Bartholomew's for the trouble they have taken in the examination of the urines.

Dr. Champneys said that the Society was indebted to Dr. Brook for recording these cases. Diabetes in pregnancy was different from the slight glycosuria which had been called

"resorption diabetes" and was due to reabsorption of sugar of milk from the breasts. Again, diabetes in pregnancy sometimes ran a comparatively harmless course and sometimes was rapidly fatal. Having been associated with Dr. Matthews Duncan in the first of his recorded cases, in which a patient apparently in good health became rapidly ill and died three days after delivery, he had a vivid picture of the terror of which this affection was capable. The difficulty really lay in the prognosis, and he knew of no satisfactory method of formulating one at present. It was only by recording cases that a prognosis might eventually be arrived at.

Dr. Eden said that he should like to know from Dr. Brook whether there were any other symptoms of diabetes in his cases besides glycosuria—such symptoms, for instance, as polyuria, thirst, wasting, etc. These points were not referred to in Dr. Brook's account of his cases. There could be no doubt that the cases recorded by Matthews Duncan to which the author had referred were true cases of diabetes and probably belonged to quite a different class from cases of simple glycosuria. A number of observations on the glycosuria of pregnancy had been recently published, and some observers went so far as to say that sugar could be found in small amounts in the urine of 5 to 6 per cent. of all pregnant women. Most writers were of opinion that the condition was not serious or important when existing alone. An ingenious German observer had produced glycosuria experimentally in rabbits by sewing up pieces of human placenta in the peritoneal cavity, which led him to the conclusion that the glycosuria of pregnancy might be due to the absorption of toxic substances from the placental tissues—*i. e.* that it was due to toxæmia. But Dr. Brook's observations upon the effect of diet appeared to run counter to this conclusion.

Dr. Fairbairn said he had been much interested in Dr. Brook's cases, as he had recently seen one of a similar nature under the care of Dr. Hedley, which he hoped would turn out as well as those described. The patient is a woman six and a half months pregnant who has slight glycosuria, from 40 to 300 gr. being passed in the twenty-four hours. The sugar present was proved to be glucose and not lactose by the phenyl-hydrazine and fermentation tests and by the polarimeter. The amount of urine is not increased, the largest measurement being 55 oz., and the specific gravity is only slightly raised. As the result of a modified diabetic diet the sugar has diminished, but has never been absent from the night specimen, though occasionally the day one is free. Dr. Fairbairn entirely agreed with what Dr. Eden had said as to this slight glycosuria in pregnant women being quite distinct from a true diabetes. The small amount of glucose passed, the absence of the other symptoms of diabetes, and the ultimate result put them in an entirely different category.

From the point of view of treatment, prognosis, and life insurance, it was most important that the nature of such cases should be recognised, and this could only be accomplished by careful recording, such as Dr. Brook had done.

Dr. Griffith referred to a case of diabetes which he had had the opportunity of watching with Dr. Pavy and others for some years, who needed strict diet and continuous administration of codeia to keep her glycosuria under reasonable control, any relaxation of diet leading to a marked increase, with depreciation of health. She became pregnant about two years ago, and passed through her pregnancy and labour without any evidence of danger, and her health appeared to be, if anything, improved. This is a case intermediate between the cases of temporary glycosuria reported by Dr. Brook and the very serious cases reported by Dr. Matthews Duncan.

In reply, Dr. Brook stated that the daily quantity of urine in all three cases was at first increased to 60–70 oz., but under treatment soon fell. He was inclined to look upon the sugar in the urine as due to both the factors mentioned by Dr. Eden; it was undoubtedly chiefly affected by diet, but this alone would not explain the occasional return of the sugar whilst the diet and treatment were being strictly followed, a return which might be explained as due to the second, the placental, factor. He was glad to know that others had met with similar cases.

CARCINOMA OF THE BODY OF THE UTERUS, WITH SECONDARY GROWTH IN BOTH OVARIES.

Shown by Mr. H. T. Hicks.

The patient, aged 49, was admitted under the care of Dr. Horrocks for hæmorrhage. She had been married five years, but had borne no children. Menstruation had been regular and of about normal amount. Eighteen months ago she began to suffer from irregular hæmorrhages from the uterus. These attacks of bleeding became progressively more severe. There was no pain, but she wasted considerably.

On admission the patient was profoundly anæmic. The uterus was soft, distinctly enlarged, but movable. On

each side of the uterus could be felt two irregular-shaped tumours, which were also movable. The curetting showed that the endometrium was affected by an adeno-carcinoma.

Dr. Horrocks ligatured the cervix below and performed total abdominal hysterectomy, removing the ovarian tumours at the same time. There was no ascites.

On cutting open the uterus a superficial and somewhat polypoid growth is seen, affecting mainly the lower segment of the uterus, its lower limit being sharply defined at the internal os. The upper part of the cervical canal was dilated to receive the polypoid mass. The external os was closed, the uterine muscle was much hypertrophied but not deeply infiltrated with the growth.

Both ovaries were converted into irregular masses of about the size of duck's eggs. Projecting from the surface were numerous grape-like cysts, filled in the recent state with a creamy, necrotic material.

The walls of the cysts were composed of fibrous tissue. The central core of each tumour was made up of solid growth of a soft consistency. In some places the growth seemed to form a papillary lining to small hollow spaces. The growth was well encapsuled by a thick tunica albuginea. The peritoneal surface of both tumours was smooth and free from adhesions. Microscopically the growth was an adeno-carcinoma, and the secondary growths were of the same glandular type of formation.

The patient died on the tenth day after operation in a profound state of anæmia. At the autopsy a fatty heart was found, and the organs were extremely pale. There were no secondary growths in other organs or in the lymphatic glands.

He had seen altogether three cases of comparatively early carcinoma of the body of the uterus, with secondary growths in both ovaries, and should very much like to hear the opinion of those of more experience as to the relative frequency of metastases in the ovaries secondary to cancer of the body of the uterus. He would suggest that in primary carcinoma of the body the tubes and

ovaries should be removed as well as the uterus, even though they appear to be apparently unaffected by growth.

Dr. Lewers said that he had recorded a case of carcinoma of the body of the uterus for which he had performed abdominal hysterectomy in which there was a secondary malignant growth in one of the ovaries. He showed the specimen before the Society. It was recorded in the 'Obstet. Soc. Trans.,' vol. xiv, 1903, p. 97.

Dr. Tate referred to a case of malignant disease of the body of the uterus and ovary which had come under his notice five years ago. The tumour of the ovary, which to the naked eye appeared to be a cystic adenoma, was removed by abdominal section by Dr Cullingworth, after a preliminary exploration of the interior of the uterus on account of persistent hæmorrhage. A good deal of soft growth was removed with the curette. Portions of this growth and also of the ovarian tumour were examined by Mr. Targett, who pronounced both to be columnar-celled carcinoma. A fortnight after the first operation, viz. on July 25th, 1901, the uterus and the remaining ovary were removed by the vaginal route by Dr. Tate. The patient was some time in recovering from the operation, but ultimately got quite strong. One year after the operation the patient married, and remained quite well till November, 1902, when a little fleshy growth was discovered at one angle of the scar in the vaginal roof. It appeared to be a little granulation-tissue and was scraped away with a sharp spoon, after which pure carbolic acid was applied to the raw surface. This also was examined microscopically and reported to be carcinomatous. It has, however, never returned. On March 17th, 1903, a small cystic swelling was found above the scar in the vaginal roof. This was incised and a couple of ounces of blood-stained fluid evacuated. No evidence of any new growth was discovered. The patient kept well for over a year after this, but on June 20th, 1904, she came up to report herself and was found to have a swelling as large as an orange in the situation of the old one. Dr. Tate was not very sanguine about removing this, but after consultation with Dr. Cullingworth he decided to open the abdomen, and then found a cyst in the situation of the remains of the right appendages, intimately adherent to the intestines and surrounding structures. The cyst was carefully separated from its adhesions and removed. On examining the interior it presented at one patch a small, friable growth as large as a hazel-nut. Microscopically this proved to be malignant. The patient was quite well when seen in March, 1906. An interesting point in the case is that the patient was only thirty-three

years of age at the time of the first operation, and it is remarkable that she should be quite well so long after the primary operation in spite of the fact of her having had two definite recurrences of the disease.

Dr. Russell Andrews mentioned a specimen in the Museum of the London Hospital which resembled that described by Mr. Hicks. The carcinoma of the body of the uterus was fairly early, the organ not being enlarged, and the ovary affected by secondary sarcinoma was about as large as a Tangerine orange.

The President briefly described a case in which he had removed, by the abdominal method, a uterus with carcinoma of the body. He chose this operation because he was suspicious of the right ovary and tube. The left ovary looked quite normal and was shrunk, as would be expected in a woman of fifty-eight. It, as well as the right ovary, was carcinomatous. This case supported Mr. Hicks's views as to the extent of operation in instances of cancer of the uterine body.

FURTHER HISTORY OF A CASE OF DEGENERATING FIBROMYOMA AND SARCOMA OF UTERUS.*

By Dr. R. Hamilton Bell.

The case was originally reported by Dr. Walter Tate at the meeting of the Society last November. It was a large tumour, weighing 4½ lb., and was described as consisting mainly of fibromyoma undergoing necrotic degeneration, but as showing low down on the right side a small portion which was soft and friable, and which microscopically showed the structure of a spindle-celled sarcoma. Dr. Tate declared that the special interest of the specimen was to determine whether the sarcoma was due to malignant change in a pre-existing fibroid or whether it was a primary growth.

The tumour was referred to the Pathology Committee, which, after two sittings, found itself unable to find any definite evidence of sarcomatous change.

Those of us who had watched the case at St. Thomas's,

* See Vol. XLVII, pp. 358, 407.

seen the operation, and examined the tumour very carefully, both macroscopically and microscopically, were unable to accept this verdict as conclusive, and in the discussion upon the paper read by Dr. Griffith and Dr. Williamson at the meeting in January, based upon a case of fibromyoma undergoing sarcomatous change, I pledged myself to report if possible the further history of Dr. Tate's case. I am now able to fulfil this promise and to give, not only the clinical history, but also an account of the autopsy, and to show sections taken from secondary growths in the abdomen, retro-peritoneal glands, liver, and lungs.

For the sections and for the account of the *post mortem* I am greatly indebted to the authorities in charge of the Cancer Research Department of the Middlesex Hospital.

The original operation at St. Thomas's was on October 5th, 1905. The patient was discharged a month later, but on January 3rd, 1906, she was admitted to the cancer wards of the Middlesex Hospital with obvious evidence of extensive new growth in the abdomen. Great abdominal distension, with constipation, and occasional vomiting, and later dyspnœa and a disturbed mental state were the main symptoms. Death occurred on February 25th. I had written previously to the house surgeon, and was courteously informed of the death and invited to be present at the *post-mortem* examination. The following notes are, however, taken from the official report in the records of the Cancer wing of the Middlesex Hospital.

Autopsy.—February 26th, 1906.

Body much emaciated, the abdomen enormously distended, legs and feet somewhat œdematous. Brain not examined. Œsophagus, larynx, trachea, thyroid normal.

Thorax.—Pericardium contained about 20 c.c. clear fluid. Heart normal.

Pleuræ.—Numerous adhesions at left apex and all over the right side. The visceral pleuræ on both sides studded with plaques of growth.

Lungs.—Some engorgement of both bases. Numerous nodules of growth throughout.

Abdomen.—On section of abdominal parietes an enormous cyst was seen on the right side, extending from the pelvis to the liver, which was displaced upwards by it. On puncturing it more that 80 oz. of yellow, rather viscid fluid escaped, but owing to the thickness of the walls it did not collapse. The wall when subsequently removed weighed 5 lb. 6 oz. This cyst-wall was everywhere matted to the intestines by bands of adhesions, to such an extent that the cyst, intestines, and pelvic contents had to be removed *en masse.* Six other thick-walled cystic masses, each measuring about 3 inches in diameter, were also found in the peritoneal cavity apparently attached to the parietal peritoneum, and a single solid mass of flattened form (3 inches in diameter) was connected with the round ligament of the liver. The inner surface of the cysts was rough, and the contents in each case were the same as those of the large cyst.

The peritoneum was studded with masses of growth of nodular form varying in diameter from more than half an inch to that of a pin's head.

Liver.—Contained nodules of growth, small and about twelve in number.

Spleen, pancreas, adrenals normal. Stomach and intestines normal, except for nodules on the peritoneal surface of the latter.

Kidneys.—Capsules rather adherent and the pelvis of the left somewhat dilated.

Bladder.—Mucosa apparently normal. Both it and the rectum surrounded by the pelvic growth.

The lumbar, iliac, and retro-peritoneal glands formed a continuous mass of growth. No trace of uterus or ovaries found.

The sections shown to-night are taken from the cyst-wall, from the retro-peritoneal glands, and from the secondary growths in the liver and lung. I have also brought for purposes of comparison a section of the original tumour—that is, of the soft friable portion. The close resemblance will, I think, be agreed to by all.

The sections from liver and lung perhaps establish most clearly the diagnosis of spindle-celled sarcoma.

The question has still to be answered whether the sarcoma was due to malignant change in a pre-existing fibroid or whether it was a primary growth. My own opinion inclines to the former hypothesis, but it is difficult to speak confidently. The fact, however, that the Pathology Committee were unable to agree that the original sections showed anything more than a very degenerate fibro-myoma, with no definite evidence of sarcomatous change, seems to point distinctly in this direction.

The specimen was referred to the Pathology Committee.

ABDOMINAL HYSTERECTOMY FOR CANCER OF THE CERVIX ASSOCIATED WITH PREGNANCY.

Shown by Mr. Douglas Drew.

(Introduced by Dr. Walter Tate.)

Mr. Drew showed a specimen of cancer of the cervix associated with pregnancy at the fourth month, which he had removed by abdominal hysterectomy on March 9th, 1906, the patient making an uneventful recovery.

On the left side the growth had extended beyond the limits of the cervix, which rendered it doubtful whether it would be possible to completely extirpate the disease *per vaginam.*

Mr. Drew therefore selected the abdominal route, and followed the method advocated by Wertheim of dissecting out the ureter, and removing the cellular tissue on the left side with the uterus. The operation proved that the disease could not have been completely removed by vaginal hysterectomy, as it was necessary to dissect out some three inches of the ureter in order to remove the cellular tissue on the left side. Mr. Drew pointed out that the laxity of

the tissues associated with pregnancy rather facilitated the operation. He remarked upon the fact that no damage resulted to the ureter, which he attributed to the care that was taken not to disturb the vessels ramifying on its surface.*

Dr. Lewers asked if Mr. Drew had found it necessary to remove any of the pelvic lymphatic glands.

Dr. Herbert Spencer was interested in this case in that he had at the same time as Mr. Drew a similar case of pregnancy advanced to about the fourth month (the fœtus being nine inches long), and the cancerous cervix was as big as a small orange. Although the utero-sacral ligaments were thickened he had no difficulty in removing the uterus by the vagina with the galvano-cautery, and the patient made an absolutely painless recovery. The absence of difficulty or severe hæmorrhage in separating this large cervix with the galvano-cautery inclined him still more towards the suggestion he had made for dealing with certain cases of cancer complicating labour by the preliminary removal of the cervix. His own case, alluded to above, was so anæmic and exhausted from hæmorrhage that he did not think she would have stood an abdominal hysterectomy, which had certain advantages, but was undoubtedly more dangerous than the vaginal operation. He thought that one of its chief advantages was the clamping of the vagina before severing it; this had not been carried out in Mr. Drew's case.

* The author states that there was distinct evidence of recurrence at the top of the vagina at the end of July, and that the growth had further extended when seen on September 19th, 1906.—[Ed.]

A CASE SHOWING (*A*) UTERINE CONTRACTION WITHOUT RETRACTION, (*B*) PROLONGED HIGH TEMPERATURE OF NERVOUS ORIGIN.

By G. ERNEST HERMAN, M.B.Lond., F.R.C.P.,
CONSULTING OBSTETRIC PHYSICIAN TO THE LONDON HOSPITAL.

(Received February 7th, 1906.)

Abstract.

The author relates a case of premature labour in which the advance of the child was arrested for more than twenty-four hours, although the uterus was regularly contracting, the passages fully dilated, the child small, and the pelvis of ample size, the cause of the arrest being, in the author's judgment, absence of uterine retraction. He thinks the case important as exemplifying the difference between contraction and retraction of the uterus.

Delivery was followed by high temperature lasting more than a fortnight, without physical signs of disease, without emaciation or enfeeblement, and, therefore, the author believes, entirely of nervous origin. As such prolonged high temperature of nervous origin is rare, the author has collected, and quotes some similar cases recorded by others.

The patient, aged 29, had had three previous pregnancies. The first child was born eight years ago. It was healthy at birth and has remained so. The second child was born six years ago; it had snuffles and a skin-eruption, but is now quite healthy. The patient believed that she became pregnant for the third time in October, 1903, and expected to be delivered in July, 1904. The

labour did not come on till a month after the date at which it was expected, and then the patient was delivered of a dead and decomposing child, which, in the opinion of her medical attendant, Dr. C. B. Voisey, must have died at about eight months intra-uterine age. In the third stage of labour there was much hæmorrhage, the placenta was found to be adherent, and was with great difficulty manually removed. Temperature was high for about a week after delivery.

The patient's last menstruation ceased on November 17th, 1904. Delivery was, therefore, expected on or about August 22nd, 1905. The patient was naturally anxious that the events of the preceding pregnancy should not be repeated. After consultation between Dr. Voisey, Dr. Michael Beverley of Norwich (the patient's former medical attendant), and Dr. Herman, it was decided to induce premature labour at about the time at which in the last pregnancy the child was believed to have died. Therefore on July 27th, at 10 a.m., the child's movements being perceptible and the fœtal heart audible, a bougie was passed into the uterus. The child was lying in the first position, back forwards and to the left, head downwards. The head was above the pelvic brim, but not engaged in it, the os internum not dilated.

Pains began at about 1 a.m. on July 28th; at 5 p.m. the os internum was large enough to admit two fingers, but the pains were not more frequent or more vigorous than they had been early in the morning. A Champetier's bag was therefore placed in the lower segment of the uterus. This soon produced more vigorous uterine action. The bag was removed at 11.15 p.m., the os uteri being then dilated to a diameter of $3\frac{3}{4}$ inches. The head was above the brim, not in the least engaged in it, the position of the child as before. After removal of the bag the uterus continued to regularly contract, but the child remained in the same position. After waiting for about an hour, as no part of the child descended, half a drachm of the liquid extract of ergot was given. After this regular uterine con-

tractions continued, but no descent. This state of things continued throughout the whole of July 29th, except that early in the morning of this day the membranes ruptured. In the evening a draught of ½ drm. of chloral and 15 min. of Tr. opii was given, and the patient slept on and off through the night and the next morning. At 8.30 a.m. on the morning of July 30th, the patient not being aware of any increase in her pains, the nurse found the cord protruding from the vulva. I saw the patient at 10 a.m. The cord was protruding from the vulva, and pulsating. The head was just engaged in the pelvic brim, but had not sunk deeply into it. Regular uterine contractions were present. My first intention was to replace the cord and deliver with forceps, but when I tried to do this I found the head so movable that passing up the forceps blade was enough to displace it. I therefore seized a foot, turned, and delivered. The child, a male, weighed 4 lb. 9 oz. Breathing was suspended when it was born, but was quickly established.

After delivery the uterus continued to regularly contract, and the placenta was partly expelled into the vagina. Three quarters of an hour after delivery the placenta was still partly within the uterus, and the patient had lost much blood. The placenta was, therefore, manually removed. It was adherent over a small area, not very firmly, but enough to prevent its natural detachment. The placenta was about twice the usual size, but presented no sign of disease to the naked eye. After removal of the placenta the uterus well contracted and retracted, and there was no further hæmorrhage. The patient was very prostrate, with a small and very quick pulse. Two pints of warm water were injected into the rectum. Two hours after delivery the patient had rallied well; her extremities were warm, although the pulse was still very quick.

During the labour the patient shivered, and her temperature rose to 106·4° F. Within five hours it had come down to 100° F. After this there was more or less fever

indicated by the thermometer every day until August 23rd. The patient had rigors on August 5th, the temperature rising to 105·6° F.; on August 7th, temperature reaching 105·8° F.; August 8th, with temperature of 105° F.; on August 13th, temperature rising to 104·6° F.; on August 16th, temperature reaching 104·8° F.; and on August 17th, with temperature reaching 105° F.

Throughout the illness, in spite of the high temperature and repeated rigors, the pulse, which had been after delivery very small, quick, and feeble, steadily improved in volume, and between the rigors became less quick. On the morning of August 18th, after the last rigor, the pulse was 88.

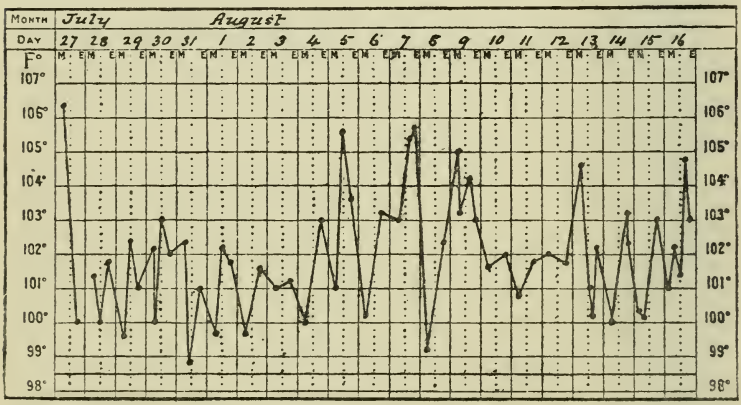
Never at any time during the illness did the patient present the anxious expression of face that accompanies septic poisoning; from beginning to end she looked placid, confident, and happy.

The patient was examined from time to time by me, by Dr. Russell Andrews, and by Dr. A. Gordon Wilson, but neither of us could at any time discover any signs of local disease to account for the fever. The uterus had sunk to the level of the pelvic brim by the end of a week. There never was any pain or tenderness in the pelvis. The uterus was movable throughout, and no enlargement of ovaries or tubes could be detected. The lochia were never offensive, and in quantity were rather less than usual. The breathing was throughout easy, there was never any cough. No cardiac murmur or irregularity was perceived, and the cardiac dulness was never increased. The patient was rather slow in regaining her appetite, but there was never any abdominal pain or tenderness, diarrhœa, nor any other indication of disease of stomach or bowels.

On August 7th a sample of the blood was taken by Mr. T. W. Twort, assistant bacteriologist to the London Hospital. It proved to be sterile. The blood was taken with a sterilised syringe. The puncture made by the syringe was closed by applying to it a pad of cyanide

gauze about the size of a shilling, over which collodion was painted. The area of skin covered by the collodion sloughed. The granulating surface left after separation of the slough was afterwards filled up by skin-grafting.

On August 9th two injections of 20 c.c. each of polyvalent anti-streptococcic serum were given, but as next evening the temperature rose to 101° F. it did not appear that much effect was produced; this treatment was not then continued. At a consultation occasioned by the rigor of August 16th it was decided that if in the evening of that day the temperature was over 102° F., anti-streptococcic serum should again be injected. But when



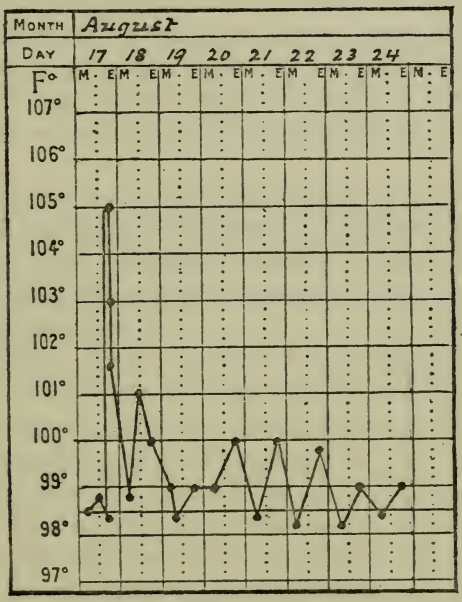
the evening arrived the temperature was under 102° F., and next morning it was for the first time since delivery normal. Had the serum been used it would doubtless have had the credit of the normal temperature.

On August 17th, about 9 p.m., she was seen by Dr. Gordon Wilson, having had a rigor earlier in the day. The temperature was then 105° F.; half an hour later it was 105·6° F. Dr. Wilson injected 10 c.c. of Parke, Davis, & Co.'s anti-streptococcic serum. At midnight the temperature had fallen to 100° F. Next morning it was 98° F. From August 19th to 22nd the temperature oscillated between 99° and 100° F. On August 23rd and afterwards it exceeded not 99° F. The temperatures were

all taken in the mouth, except that on August 13th. Dr. Gordon Wilson also took it in the axilla, and found it the same there as in the mouth.

This case is a remarkable one on account of two things.

(1) It illustrates the difference between uterine *contraction* and *retraction*. There was for more than twenty-four hours uterine contractions without retraction. In a recent American text-book of midwifery the



author says that he finds great difficulty in understanding what retraction is. I may, therefore, be allowed to quote the definition given by Pajot, which is that "retractility is the property by virtue of which the uterus, when emptied of part of its contents, does not, when the contraction by which the contents had been expelled passes off, return to its former state, but remains with its walls thickened and its cavity lessened in size"; and to refer those desirous of further understanding the subject to the paper "On Elasticity, Retraction, and Polarity of the Uterus,"

by Dr. Matthews Duncan, published in Vol. XXVIII of our 'Transactions,' p. 115 (1886).

In this case the genital canal was fully dilated at 11.15 p.m. on July 28th. Regular contractions of uterus, felt as pains by the patient, and felt also by the hands of the medical attendant on the abdomen, went on throughout the whole of July 29th, without any advance of the child, although the child was a small one, the membranes ruptured, the head presenting in the most favourable position, and there was no obstacle whatever to its advance, either from the soft parts, which were fully dilated, or the bony pelvis. Retraction did not begin till early in the morning of July 30th. When it began cannot be known; the fact was found out when the nurse discovered the cord protruding.

(2) The very prolonged high temperature, with repeated rigors, without any physical signs of disease to account for it. The absence of physical signs, of any indication of the exhaustion which usually accompanies high fever, and the complete recovery, lead me to think that the temperature was entirely of nervous origin. I say nervous, not hysterical, because the patient, so far as I could judge, was not in the least hysterical; but I must admit that the patient was not tested for the hysterical stigmata.

I have seen one case of which this reminded me. Some years ago I was called to see a patient in consultation with Dr. Gardner, of West Cliff, Bournemouth. The patient had had a fibroid polypus removed, and this simple operation was followed by high temperature, which lasted some weeks, and naturally made all around her suspect that there must be some inflammatory or infective trouble. But her medical attendants could find nothing except some slight cystitis, and I could discover nothing. The illness ended in complete recovery. The chart, unfortunately, has been destroyed, so that I cannot give exact details, but the pyrexia was high and prolonged, but without signs of exhaustion or emaciation.

Dr. Herbert Williamson has kindly sent me the notes

of a case observed in the wards of St. Bartholomew's Hospital. I have to thank Dr. Gee, under whose care the patient was, for permission to use these notes. The notes are in the handwriting of Dr. Gow. Dr. F. W. Andrewes was the clinical clerk of the case.

M. R—, aged 42. Admitted into Mary Ward on September 15th, 1885, under the care of Dr. Gee, suffering from numbness and tingling in the legs and inability to walk.

Married fourteen years. Children, 4; youngest aged 6. Miscarriage, 1 at fifth month (1883). Catamenia regular until May, 1885; since then absent. Gravida five months.

The only point of importance in past history is that patient states she has suffered from shivering fits two or three times a year for past thirteen years. Never lived abroad.

In April, 1885, loss of power in both legs, preceded by pricking and tingling sensations. Admitted into hospital in May. Remained in hospital three weeks. Left greatly improved. Became pregnant almost immediately after leaving hospital.

In October, 1886, pricking and tingling sensations returned. Suffered also from pain in calves; feeling of tight constriction around lower part of abdomen and inability to empty bladder and rectum.

At time of admission patient was unable to stand or walk, the tendon reflexes and knee-jerks were exaggerated, ankle-clonus was present, but there was no anæsthesia.

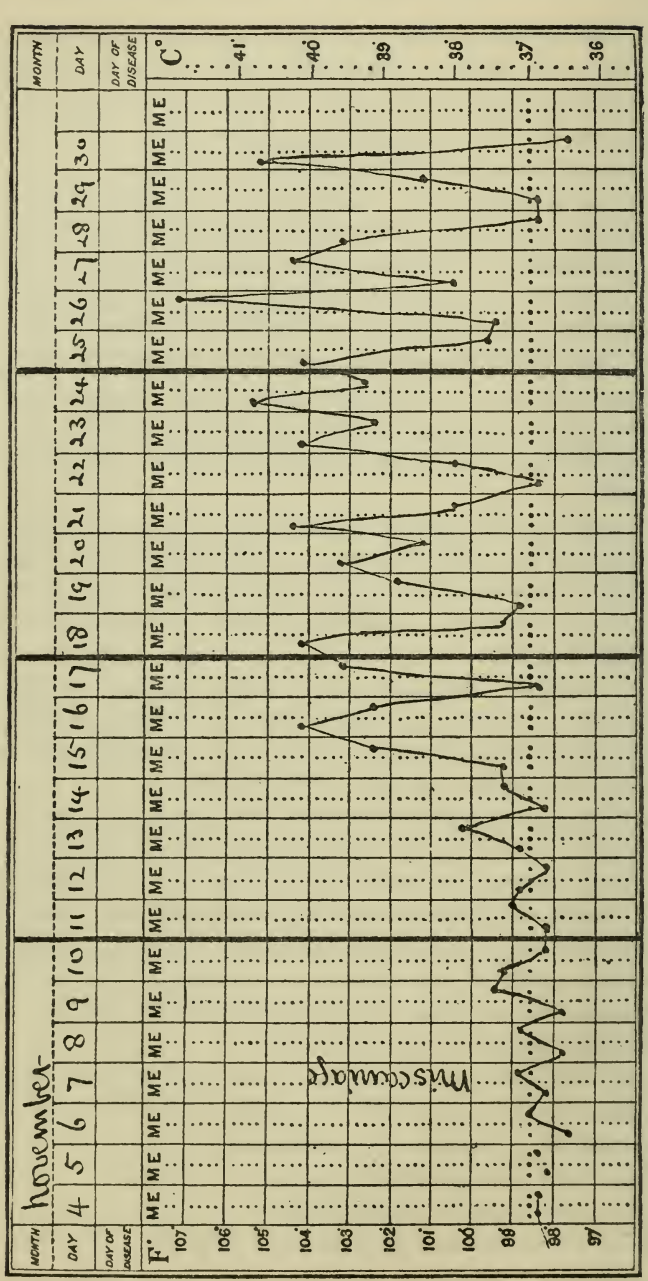
A diagnosis of spastic paraplegia was made. Dr. F. W. Andrewes, who was the clinical clerk of the case, tells me that the condition was regarded as probably functional.

October 1st.—Rigor; temperature rose to 102° F. No vomiting; passed urine under her.

4th, 5th, 6th.—Temperature remained raised, varying between 100° F. and 102° F. Pulse rate, 140. Vomited occasionally. Passed urine under her.

7th, 8th.—Temperature normal. General condition good. Full control of bladder.

9th.—Temperature again rose to 101° F. Vomited.


MONTH
DAY
DAY OF DISEASE
F°
C°
November
Miscarriage
ME

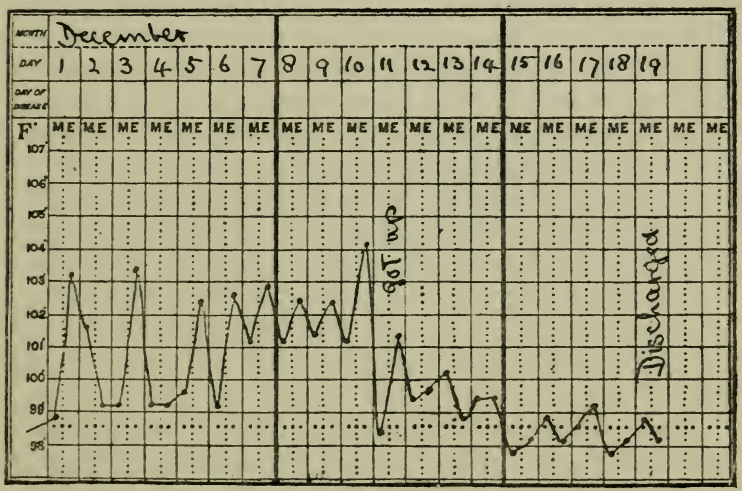
10th—November 6th.—Temperature normal. Up and about ward. Beyond the exaggerated tendon reflexes and some spasticity of legs no symptoms observed.

7th.—Aborted. Fœtus of five months' development. Placenta normally expressed *per hypogastrium*.

15th.—Retention of urine.

16th.—Rigor at 7.30 a.m. Temperature 104·2° F. No pain or tenderness.

17th.—Dr. Clement Godson examined pelvis, could find nothing abnormal.



17th—December 10th.—Very irregular temperature, occasionally dropping to normal, and frequently reaching 104° F., on one occasion reaching 107° F. Numerous rigors, followed by profuse sweating and great collapse. Pulse sometimes 80 and of good volume, sometimes 140 and of very poor volume. On one or two occasions light-headed. Sometimes retention of urine. Complained of pain, sometimes in the chest, sometimes in the loin, sometimes in abdomen, sometimes in left groin. No physical signs were found to account for this.

November 25th.—Pelvic examination made by Dr. Matthews Duncan. Nothing abnormal discovered.

December 9th.—Temperature, 104° F.

10th.—Rigor. Temperature, 101° F. This day Dr. Gee ordered the patient to get up, to dress, and get about the ward. The temperature fell immediately, and remained normal.

My colleague Dr. Head has supplied me with notes of a case under his care when acting for Dr. Percy Kidd in the London Hospital. The patient, aged 22, had been for six months a hotel cook, previously to that a merchant seaman. He had been in hospitals in St. Petersburg, Madrid, and California. His complaints were of pain after food, vomiting, and pains in joints. While in the hospital he had repeated rigors, fits, with convulsive movements and loss of consciousness, and retention of urine followed by cystitis. He also had pyrexia, remarkable for two things—first its sudden variations (thus on one occasion at 4 o'clock it was 101° F., 5 o'clock 107° F., at 5.30 105° F.), and next that it was different in the axilla from what it was elsewhere. Thus on one occasion it was 108° F. in the axilla, 97·5° F. in the mouth, 99° F. in the rectum. Another time 110° F. was registered in the axilla, but taken again a few minutes afterwards it was only 99° F.

These variations strongly suggest that the temperatures were factitious. All I can say about that is that this possibility was present to the minds of those in attendance upon the man, and that if factitious they failed to find out how it was done.

The subsequent history of this man is not without interest. After being discharged from the London Hospital he spent months in residing in several London infirmaries and hospitals, and in two of the latter he had upon two separate occasions his abdomen opened, but no disease was found at either operation.

Tait,* in a paper on puerperal temperatures, has recorded ten cases of high temperature without physical signs of disease. In most of these the fever was of very

* 'Obstet. Trans.,' vol. xxvi, 1884.

short duration, but in two it lasted several days, and in seven of them the temporary rise of temperature occurred more than once.

Hale White* reported a case of hysterical pyrexia. The temperature rose to 105° F. It was considered hysterical because there were no physical signs and the course of the temperature was erratic. Pain of which the patient complained was also erratic. Rigors preceded the temperature. In his paper Hale White referred to sixteen other cases, which I will not quote, as any one who wishes to seen them can refer to Hale White's paper.

Meissen† has reported the case of a lady, aged 23, without any morbid heredity, not hysterical, but of strongly nervous, excitable temperament, who was admitted into a hospital on account of a violent spasmodic cough associated with catarrh of the apices of the lungs, but without evidence of tubercle. Every few days the temperature, which usually was between 37° C. and 39·5° C. (98·5° F. and 103° F.), went up to 43° C., 44° C., and even 45·5° C. (109·4° F., 111·1° F., 113·9° F.). When this abnormal height was reached the temperature fell suddenly to subnormal. At the height of the temperature all other symptoms of severe fever were absent, such as weakness, cardiac disturbance,—the pulse was for the most part nearly normal—disturbance of the sensorium. The prominent symptoms were restlessness and excitability by psychical conditions. This very peculiar condition lasted for fourteen days, and then the temperature remained normal. Meissen considered the hyperpyrexia as a consequence of disturbance of the heat-regulating apparatus by a neurotic basis.

The temperatures in this case were taken simultaneously in the axilla, the mouth, and the rectum, and found to agree, and the thermometers were carefully tested.

Tillmann‡ has reported the case of a marine, previously healthy, and who had not inherited any morbid tendency.

* 'Clin. Soc. Trans.,' vol. xix, 1886, p. 124.

† 'Berliner klin. Wochensch.,' 1898, No. 24.

‡ 'Münch. med. Woch.,' 1893, No. 15.

He suffered from headache and tenderness of the muscles of the neck and back, with remittent, but steadily increasing fever, so that at first typhus fever was suspected, but this diagnosis was not confirmed. In the course of ten weeks' treatment temperatures of 42° C. (107·3° F.), 43·5° C. (110·3° F.), and 45° C. (113° F.) were measured, which sank in a short time to normal. The thermometer was carefully tested, the patient was watched while the temperature was being taken, and it was believed that deception by rubbing the thermometer was out of the question. While the patient was under observation symptoms affecting the central nervous system developed—amnesia, dreamlike confusion, Romberg's symptom, dyschromatopsia, hyperæsthesia of the vertex. Tillmann thought that if fever of so high a degree had been due to infection the patient must have died. But as nervous symptoms became more and more prominent, he accepted the view that he was treating a case of hysterical fever. This patient's temperature was taken both in the axilla and in the rectum, and found to be the same in both places. At one period in the course of the illness trephining was contemplated, but was not done on account of the difficulties of localising the disease.

Kobler * relates the case of a man, aged 21, a baker, who was attending a dermatological clinic for an ulcer of his foot, and was transferred to Kobler's care because for three days he had fever. Every day at about the same time he had convulsive movements, ending in opisthotonos. Each attack lasted from three to ten minutes. The temperature went up during the attacks to 42° C. (107·6° F.) 39·2° C. (102·5° F.) and 40·5° C. (104·9° F.), but the pulse was only 72. It was found that enemas of water and of mucilage had the same effect in procuring sleep as enemas of chloral hydrate. The patient was threatened with being put in a bath of ice-cold water, and this cured him at the end of a week.

He also relates the case of a boy, aged 11, who was daily seized, always at 6 p.m., with fits of screaming and

* 'Wien. med. Woch.,' 1900, No. 26, S. 1266.

manifestations of pain in the ileo-cæcal region and inability to speak. The attack lasted three or four hours. There were no physical signs of disease, no rigor, no tenderness in the ileo-cæcal region. With the attacks the temperature rose to 39·8° C. (103·6° F.) 40·5° C. (104·9° F.) and 41° C. (105·8° F.) The patient was transferred to a clinic, and was there threatened with an operation and strong applications of electricity. These proposals were followed by prompt cure.

Sarbo * has published a case of hystero-epilepsy, with hemi-anæsthesia and limitation of the field of vision in which no organic disease could be detected. The patient had attacks of pyrexia, coming on at nearly the same hour every day, in which the temperature rose to 39° C. and over, the maximum being 39·6° C. (103·3° F). This lasted for a week, and then the maximum temperature began to drop, but it was four weeks before the temperature was normal. The temperatures were taken carefully, by nurses, in the axilla. The temperature on the anæsthetic side was always lower than that on the other side. The fever only lasted some hours, the temperature being normal between the attacks. The fever was preceded by a feeling of heat and followed by sweating.

Heubner † relates the case of a man who suffered from fever for three months, without any discoverable cause. His temperature was normal in the morning, and rose to 39·5° C. (103·1° F.), 40° C. (104° F.), and over in the evening. There was generally shivering. In spite of his fever the man remained fat and muscular, and after its cessation he remained well.

Dippe ‡ relates the case of an hysterical woman, aged 43, who had fever lasting for sixty days, with the exception of two intervals of about a week each. The evening temperatures were usually between 30° C. and 40° C. (102° F. and 104° F.). After sixty days of this Döderlein opened the

* 'Arch. f. Psych.,' Bd. xxiii, 1892, S. 486.

† 'Deutsch. Arch. f. klin. Med.,' Bd. lxiv, S. 55.

‡ *Ibid.*, S. 212.

abdomen, expecting to find pus. He found all the abdominal viscera perfectly healthy. He removed the healthy appendix and the healthy ovaries. The temperature, which the evening before the operation had been 41·6° C. (106·8° F.), at once became normal and remained so.

Wormser and Bing * relate the case of a patient who had inherited nervous weakness. She had been early given to venereal excess and had acquired gonorrhœa, which had led to pelvic peritonitis. In October, 1898, her left tube and ovary were removed and ventral fixation done. She was not improved in health, so in April, 1900, her uterus and the remaining tube and ovary were removed by the vagina. She showed anæsthesia, analgesia, hyperæsthesia, limitation of the field of vision, and sensorial stigmata. In July, 1900, she had an attack of pyrexia, lasting three days and reaching a maximum of 40·4° C. (104·7° F.). The reporters could discover no adequate physical cause for this, and regarded the fever as purely hysterical.

Cuzin † has reported a case of pyrexia of very irregular type, lasting over three weeks, the maximum temperature being 41·6° C. (106·9 F.), occurring in a patient who had well-marked hysterical stigmata but no evidence of other organic disease, except that the patient had had hæmatemesis. The temperatures were taken with more than one thermometer.

Dr. Mary Putnam Jacobi ‡ has published a case in which fever of a very irregular type, reaching a maximum of 103·8° F., was observed in a patient the subject of hysteria. It was at first supposed to be due to parametritis, but no physical signs of this or any other organic disease could be found, although the patient was examined under anæsthesia. Dr. Jacobi's paper contains summaries of several other cases quoted from periodicals.

Boulay § has discussed hysterical fever very fully, and

* 'Münch. med. Woch.,' Bd. xlvii, 1900, S. 1373.

† 'Lyon Med.,' T. xcii, 1899, p. 465.

‡ 'Journ. of Nerv. and Ment. Dis.,' New York, June, 1890.

§ 'Gaz. des Hôp.,' T. lxiii, No. 148, 1890.

points out that its characteristic features are its irregular course, its frequently sudden termination, and the fact that in spite of prolonged high fever and though very little nutriment is taken, the patient is neither emaciated nor enfeebled.

I have related the history of this case because it has generally been thought that the characteristic feature of nervous high temperatures was their sudden rise, brief duration, and sudden fall. The duration of the temperature in this case at first seemed to contradict the view that it was of nervous origin. The cases I have now brought together show that high temperature—I use not the word "fever"—of purely nervous origin may last for weeks. The characteristic feature which distinguishes high temperatures of nervous origin from those due to infective processes is the absence in the former of emaciation and enfeeblement.

Dr. Williamson said that the Society was much indebted to Dr. Herman for bringing before it this very interesting case and for drawing attention once again to certain phenomena in the mechanism of labour. He found himself unable to accept Dr. Herman's explanation of the delay in delivery. Dr. Herman had asserted that retraction was absent, but this assertion rested upon no scientific proof. At the outset it was necessary to ask what we mean by retraction. Dr. Herman had quoted a definition, but one which he (Dr. Williamson) could not accept, for it assumed that in normal labour retraction did not come into play until the second stage; this assumption he believed to be a false one. To define retraction was extremely difficult, and on looking the subject up he found that few obstetricians had attempted to do so. Definitions were, however, to be found in two of the text-books in common use amongst students—those of Dr. Galabin and Dr. Dakin. Dr. Galabin defined retraction thus: "Retraction means the contraction and shortening of the uterine muscle not followed by relaxation." That definition conveyed a totally false idea; it was a matter of common knowledge that during the third stage of labour and afterwards the uterus remains retracted, but that rhythmical contractions and relaxations still continued. Dr. Dakin's definition recognised and laid stress upon this important point: "Retraction is a process which is probably peculiar to involuntary, and most marked in the case of uterine, muscle, and is something superadded to contraction, as it enables a fibre which has shortened

to relax without returning to its original length." The definition is, however, unsatisfactory in two respects—first, because it implies that retraction is a property peculiar to involuntary muscle, whereas in truth the biceps is just as capable of retraction as the uterus, a point insisted upon by Dr. Horrocks; and secondly, because it is wrong to imagine that other involuntary muscles do not possess this property in as marked a degree as the uterus. Upon the high power of retraction of the bladder-muscle we are dependent for our daily comfort. Dr. Williamson thought that Pajot's definition was also misleading, for it implied that retraction played no part in the dilatation of the cervix. He could not conceive that dilatation of the cervix could be brought about by contractions alone. What happened in muscular contraction? The muscle shortened, the contraction passed off, and the muscle returned to its previous condition. What happened in a labour pain? (and for our present purpose we might regard the uterus as one big muscle). The uterus contracted, the contraction passed off, but the cervix remained permanently dilated or relaxed. Something more than contraction must have happened here; it is not to be explained by the fact that the uterine contents have been forced into the cervical canal, because the same phenomenon is observed in cases in which the membranes have ruptured prematurely and the head still remains above the brim. It can only be satisfactorily explained by assuming that even during the first stage contraction and retraction go hand-in-hand. Could any anatomical proof be found for the suggestion he had ventured to make? We possess descriptions of frozen sections made through the bodies of five women who died during the first stage of labour; there is no need to enter into details, because a full description is given in Dr. Barbour's book upon the 'Anatomy of Labour.' In all five sections there is evidence of marked retraction in that there is a thickening of the walls of the upper, and a thinning of the walls of the lower part of the uterus. We possess, also, several sections made before the commencement of labour, but in all these the uterine wall is found to be of almost uniform thickness. Barbour has noted this striking fact, but its significance as evidence of retraction appears to have escaped him. There was another important piece of evidence which he had himself observed in the uterus of the living woman. In the cases of Cæsarean section performed during the first stage of labour in which he had an opportunity of handling the uterus before it was cut into he had noted a marked difference in the thickness of the uterine wall in its upper and lower parts, a difference only to be explained by the fact that retraction had commenced. On these grounds, physiological and anatomical, he believed retraction to be essential for the dilatation of the cervix. If this view were correct Dr. Herman was not justified in describing this as a case

in which retraction was absent; the mere fact that the cervix was fully dilated was proof that retraction had occurred. What the cause of the delay was he could not say, but he believed it must be sought in some other direction.

Dr. Lewers said that he did not think that the author had made out his contention that the temperature in the case was of nervous origin. Here was a puerperal case in which there were repeated rigors and high temperature for a considerable period. The labour had not been uncomplicated, as the placenta had had to be removed by the hand. It had to be remembered that it was not always possible to make the hands absolutely sterile. In his opinion, a case presenting the features described was one of uterine phlebitis. He had been taught many years ago to recognise such cases by his old teacher, Sir John Williams, and had seen several such cases in consultation subsequently. The characteristic points were absence of physical signs, continued high temperature, and rigors. In some of these cases the diagnosis was subsequently confirmed by the phlebitis spreading to the main vein and causing swelling of the corresponding leg. Many of the patients were in very good condition between the rigors—not feeling very ill and with a fairly good appetite. A fair proportion of these cases recovered completely.

Dr. Griffith agreed with Dr. Williamson in his remarks in regard to Dr. Herman's paper, and would like to ask those who were present and accustomed to teach students what they taught with regard to the subject of uterine retraction. It is clearly very difficult to define what one does not fully understand, and he had again recently endeavoured to obtain the assistance of physiologists without very much success. Dr. Griffith had taught for some years that retraction is a function of all living muscle, whereby a long muscle is enabled to adapt itself to its required length after contraction or elongation, and a hollow muscle to its contents, by a state of gentle contraction with a minimum of muscle fatigue ready for further contraction or expansion. This function appears to correspond with the "tonus" of physiologists, and must be distinguished from the pathological forms or degrees of retraction, such as absence or insufficiency, as exemplified by the flaccid condition of inertia, or in the converse condition of excess, such as is associated with the production of rupture of the uterus. He was of opinion that the delay in the birth of the child reported by Dr. Herman was rather due to the absence of efficient contraction rather than to the absence of retraction as suggested by him.

Dr. Peter Horrocks pointed out that in the definition of retraction given in Dr. Galabin's text-book and quoted and condemned by Dr. Williamson the word "relaxation" was used to mean extension of the muscle to its former lengthened state before the contraction commenced. It was unfortunate that

physiologists had adopted such an ambiguous word. In all text-books of physiology the chief phenomena of a muscular contraction were given as a contraction followed by a relaxation or return to its original state. Accepting such a meaning to the word, Dr. Galabin's definition was intelligible and correct. There was, however, another meaning given to the word "relaxation," namely the passing off of the active contraction without extension. Obviously if that were the meaning in Dr. Galabin's book the condition would be one of tetanus. When the late Dr. Matthews Duncan read his valuable paper on elasticity, retraction, and polarity of the uterus in 1886 he was clearly of opinion that retraction was different from and not dependent upon preceding contraction. Dr. Herman seemed to hold the same view. At that meeting, however, most of the speakers, including Drs. Galabin, Champneys, Roper, and himself, considered that retraction was dependent upon contraction and could not take place without it, and Dr. Matthews Duncan in his reply expressed himself as being greatly impressed by the arguments used. Obviously if the uterus can shorten and become thicker, exerting expulsive force as it does so, and this is to be called retraction and not contraction, then we have a new property of muscle, limited to the uterine wall, and unknown to physiologists. He was unable to see any necessity for such a view, nor did he know any facts which bore it out. On the other hand, looking upon retraction as dependent upon contraction, it was easy to understand all the phenomena connected with the behaviour of the uterus during pregnancy, labour, and involution. He could not understand why Dr. Herman had quoted only part of Pajot's definition. Pajot did not limit himself to a *partial* emptying of the uterus, but referred to a complete emptying as well. In the first number of the 'Journal of Obstetrics and Gynæcology of the British Empire' (January, 1902) he had gone fully into the question of retraction of the uterus, and had there defined it as "contraction followed by relaxation (that is, the passing off of the active contraction), but not by extension." In that paper and elsewhere he had shown that all muscles in the body had opponents which were themselves mostly, though not always, also muscles. For example, the biceps had as its opponent the triceps. Moreover, so far as he knew, no muscular fibre in the body, whether voluntary or involuntary, striped or unstriped, was capable after shortening by contraction of lengthening itself again to its former state. This had to be done by an opponent. Now, during pregnancy the uterus occasionally contracts without the woman being aware of it, as these contractions are painless. They were first described by the late Braxton Hicks. During such a painless contraction the pressure within the amnion was increased, and when the active

contraction passed off this increased pressure was brought into play to extend the uterine wall to its former state. It played the *rôle* of an opponent, and there was no retraction. In labour, however, the membranes begin to open up the cervical canal and each uterine contraction was followed by imperfect extension, and so by slight thickening (retraction), and when the os uteri was fully dilated the contraction which completed the first stage of labour by rupturing the membranes was followed by a considerable increase in retraction, inasmuch as there was now absolutely no pressure exerted by the liquor amnii. In Dr. Herman's case he said that for a whole day there were uterine contractions not followed by retraction, although the child was small, the pelvis normal in size, and the membranes ruptured. Did he mean that after each contraction the uterus went back to its former state? If so, what extended it? He did not think Dr. Herman's statement correct, because no muscle in the body could extend itself after contracting, and under the conditions he mentioned there was nothing to extend the fibres. He believed that each of those contractions was followed by a slight increase in the thickness of the wall, due to retraction. In the case of the bladder the detrusor fibres expelled the urine, and the bladder-wall became distended by urine, and so the fibres were once more extended. Similarly in the bowel the fibres contracted, and as they did so in a peristaltic manner the contents were forced onwards; but the fibres had to be extended by the bowel contents before they were in a position to do useful work again by contraction. It was the same with the heart and other hollow viscera. At the end of the third stage of labour the uterus was sometimes in active contraction, when it felt hard, and was more or less spherical, with a well-defined contour, and sometimes in passive relaxation, when it was flatter, less spherical, and with a contour not easily felt; this latter condition was complete retraction.

Dr. Amand Routh considered Pajot's definition of retraction the best. It was difficult to decide upon the question of how far contraction had been present and retraction absent in Dr. Herman's case. He asked whether a caput succedaneum had been present and whether a retraction (Bandl's) ring had been observed during version. He gave instances of cases where rigor and hyperpyrexia had occurred without obvious cause, some, no doubt, of nervous origin, but others due to thrombosis of the ovarian and other veins secondary to uterine phlebitis.

Dr. Boxall said that he considered retraction was at least nearly related to tone. He could quite believe it possible that in some circumstances retraction might be absent when contractions were taking place. He had observed that in cases where the uterus is firmly retracted immediately after the completion of labour, twelve or twenty-four hours later the uterus is less

firm and more bulky, showing that retraction was not persistent. In confirmation of what had been said by Dr. Lewers, he had seen several cases of acute septic infection in which the stress of the poison fell mainly on the blood-vascular system without local manifestations in which the patient complained of little or nothing. In one such case of persistent high temperature the patient up to the day before death expressed herself as able to eat a mutton-chop and wished to get up. The subsequent *post mortem* showed ulcerative endocarditis, with infarcts in several organs, and sero-sanguineous effusions. But in all such cases, in addition to the persistent high temperature, the frequency of the pulse was invariably raised considerably and served to distinguish from high temperature of purely nervous origin.

Dr. Herman said he thought he had unintentionally put Dr. Herbert Williamson under a misconception by not stating in the abstract of his paper that the first stage of labour was completed artificially by a dilating bag. He agreed with Dr. Williamson that during the first stage of normal labour retraction was present. He had quoted Pajot's definition of retraction because he thought it the best; and with much deference he thought it much better than the one given by Dr. Horrocks. He did not agree with Dr. Griffith that retraction was the same thing as muscular tonus. He saw no resemblance between the retraction of the uterus and the action of the heart—after its systole the heart went back into diastole, exactly the same condition as before the systole—nor between the uterus and the bladder, for the contents of the bladder were expelled by the pressure of the abdominal muscles. If Dr. Griffith had had his hands on the patient's uterus he would not have suggested that uterine contraction was absent. Dr. Horrocks asked whether he meant that during the twenty-four hours in which he said retraction was absent the uterus, after contracting, relapsed and went back to the same condition before the contraction began. That was exactly what he did mean. There was no caput succedaneum and he had not felt any retraction ring. He differed entirely from Dr. Boxall, who said that retraction ceased after delivery. The persistence of retraction was the patient's safeguard against *post-partum* hæmorrhage. If the uterus relaxed after delivery hæmorrhage was the consequence. With regard to the temperature the possibility of uterine phlebitis was, of course, present to the minds of all who were in attendance on the patient. But never could the slightest sign of its existence be found and the course and issue of the case negatived the idea of septic infection. Instead of the high temperature being accompanied with progressive weakness and emaciation, as was the case in fever of septic origin, this patient's condition improved from day to day in spite of what appeared to be fever; and it was this which was distinctive of high temperatures of nervous origin.

JULY 4th, 1906.

W. R. Dakin, M.D., President, in the Chair.

Present—37 Fellows and 6 visitors.

Books were presented by Dr. E. M. Brockbank, Mr. Alban Doran, Dr. Blacker, and Dr. Inglis Parsons.

Harold Clifford, M.B.Lond., F.R.C.S.Edin. (Manchester); Ernest Eric Young, M.B., B.S.Lond. (Stoke-on-Trent); and William Gavin Hamilton, Capt. I.M.S., M.R.C.S., L.R.C.P.Lond. were proposed for election.

William Blair Bell, M.D., B.S.Lond., was elected a Fellow of the Society.

Report of the Pathology Committee on Dr. W. H. H. Tate's Specimen of Degenerating Fibro-myoma and Sarcoma of Uterus, with secondary growths in peritoneum, liver, lungs, and retro-peritoneal glands. (Exhibited by Dr. Hamilton Bell. Vide 'Obstet. Soc. Trans.,' vol. xlvii, 1905, pp. 358, 407).

We have re-examined the microscopic section of the encapsuled friable portion of the original tumour, and examined sections of new growths from the liver and lung, and agree that the latter are sarcoma, mainly of the spindle-celled type. In view of the additional evidence

now available, we are of opinion that the friable portion of the uterine tumour above referred to is sarcoma.

(*Signed*) R. Hamilton Bell.
G. F. Blacker.
T. W. Eden.
Herbert R. Spencer.
Corrie Keep.
Walter S. A. Griffith, *Chairman.*

SIXTY-FOUR CASES OF CONTRACTED PELVIS.

By C. Nepean Longridge.

The system of admission of patients to Queen Charlotte's Hospital is so arranged that every patient, with the exception of emergency cases, is seen about eight weeks before term. The primigravidæ are all examined and their pelves carefully measured. The cases in which contraction is found are appropriately dealt with. A considerable number of breech cases are treated by external version at this period. The multigravidæ are questioned as to their previous obstetric history, and all cases in which there has been trouble are examined. In this way adequate treatment can be applied at a sufficiently early date. The flattened and the generally contracted flat pelves were the types most commonly met with, the funnel-shaped, small round pelvis being uncommon.

The group of cases in which labour was spontaneous and unaided is specially noticeable. It is probable that a considerable number of cases with a minor degree of contraction were delivered, the abnormality being so slight as not to call for special attention. Fourteen cases, however, of well-marked contraction were recorded in which spontaneous delivery took place. One of these was a breech case with hydrocephalus, in which assistance was

given with the head. Three of the cases are so remarkable that a short account of them may be given.

Case 1.—A primipara, aged 24, diagonal conjugate $3\frac{1}{2}$ inches, had signs of old rickets and numerous exostoses on the legs and pelvis. Cæsarean section was arranged. The woman went to term and arrived at the hospital in the second stage, and gave birth to a child, weighing 5 lb. $12\frac{3}{4}$ oz., without any assistance. Labour was completed in ten hours, and the child did perfectly well. The true conjugate was measured immediately after delivery and was found to be $2\frac{7}{8}$ inches.

Case 2.—A primipara, aged 32, who, in a labour lasting nine and a half hours, gave birth to a child weighing 5 lb. $11\frac{3}{4}$ oz. through a pelvis with a true conjugate of $2\frac{1}{2}$ inches. The infant was macerated.

Case 3.—Seven-para, aged 35, with a diagonal conjugate of 4 inches. Her obstetric history was as follows :

Pregnancy 1, labour induced seven months, infant lived two and a half hours.

Pregnancy 2, labour induced thirty-two weeks, infant lived four hours.

Pregnancy 3, labour induced thirty-six weeks, infant lived thirteen hours.

Pregnancy 4, labour induced thirty-seven weeks, infant lived fourteen hours.

Pregnancy 5, full time, labour spontaneous, infant alive.

Pregnancy 6, full time, instrumental, infant alive.

Pregnancy 7, full time, unassisted, infant alive, 8 lb. 6 oz., labour completed in eight hours.

The duration of labour in these cases of spontaneous delivery was remarkably short, averaging nine hours in nine primiparæ and eleven hours in five multiparæ.

Induction of labour.—Twenty-three cases in all were induced by bougies for contracted pelvis; five of these

were delivered by forceps, and one, a shoulder presentation, by version, leaving 17 cases in which natural delivery took place. These cases are given in Table II. The time chosen for induction was settled by estimating the relative size of the head and the pelvis. Several cases were allowed to go to term, and spontaneous labour took place, as sufficient room was found in the contracted pelvis for the head to pass. The method of induction employed is as follows: the external genitals are thoroughly washed and the patient is then given a copious lysol douche while lying on the left side. A solid bougie, without a stilette, sterilised by immersion for two hours in 1 in 500 perchloride of mercury, is introduced along the fingers of the left hand into the uterus and pushed well within the cervix, so that no part of the bougie is left within the vagina. A second bougie is usually put in in the same way. In some cases an endeavour was successfully made to rupture the membrane high up, as when this is done labour seems to come on quicker, and rupture of the membrane high up does not seem to interfere with the dilating action of the bag of membranes. The patients are then left for forty-eight hours; if by that time no pains have started, hot vaginal douches are given twice a day until labour begins. The patients are not kept in bed and the bougies are not removed. Unless there is some special indication for hastening delivery, any further interference in the way of putting in bags is avoided. In Case 9 of Table II a bag was inserted, and this was the only case in which the baby was born dead. In a few of the primiparæ it was found necessary to give an anæsthetic and hold the cervix with a volsellum. In two instances the bougies had passed beneath the placenta, leaving well-defined tracks which could be seen on its maternal surface when the placenta was born; in both of these cases the bougies passed without the slightest difficulty, and no trace of bleeding occurred after they had been put in.

The time which elapsed between the passage of the bougies and the birth of the child varied considerably, the

shortest time being 22 hours and the longest 183½ hours, the average being 92·6 hours. There seems to be no danger in leaving the bougies in the uterus for so many hours provided that they are sterile to commence with, they are put in with aseptic precautions, and the vagina is healthy.

Cæsarean section.—This operation was performed in nine instances for contraction of the pelvis (Table III). All the mothers made a good recovery,* and all the infants, with one exception, left the hospital considerably heavier than at birth. As a rule the time chosen for the operation was before the onset of labour. Silkworm gut was used to suture the uterus. One case had undergone the same operation in the hospital eighteen months before and another has since been operated on a second time.

The cases treated by forceps and version call for no special remark.

Results.—No maternal death occurred.* All the mothers left the hospital in good condition, with the exception of one phthisical case who was transferred to another hospital.

Eight infants were lost. Of these three were suffering from some abnormality incompatible with life.

In the 14 cases in which labour was spontaneous and unaided, two infants were lost, one being macerated and the other hydrocephalic.

In the 17 cases induced by bougies one infant was born dead, possibly on account of the cord being compressed between the bag which was put in and the uterine wall, and one died three days after with an imperforate anus.

In the 9 cases of Cæsarean section one infant was lost. This case was sent in as an emergency case with the cord prolapsed.

In the 18 cases delivered by forceps one infant was lost, the cord in this case being prolapsed and taking a complicated twist round the neck and arm.

In the 6 cases in which version was performed two

* The fatal case of Cæsarean section (see Table III) was operated on for dermoid cyst.

TABLE I.—*Cases of Contracted*

No.	Age.	Para.	Intersp.	Intercr.	Ext. c.	Diag. c.	C. ver.	Durat. in hrs.
1	21	1	8	8½	6½	4	3½	20
2	20	1	9½	10¼	6½	4	—	9
3	21	1	9½	10½	6½	4	—	3
4	32	1	9½	9½	5¾	3	2½	9.30
5	22	1	9	9¾	7½	4¼	—	9.30
6	20	1	9¾	10¼	7¼	4¼	—	8.30
7	24	1	11¼	10¾	7¼	3¼	2⅞	10
8	38	1	10½	10¼	7½	4¼	—	13.30
9	28	1	10¼	11	7	3¾	—	8.30
10	35	8	10½	10¾	7	4	—	7.45
11	27	3	9½	10	7	4	—	20.30
12	27	2	9	9¾	7¼	4	—	4
13	25	4	9½	10¼	6½	4	—	19.35
14	30	3	8½	9½	6¼	4	—	3.30

TABLE II.—*Cases of Contracted Pelvis.*

No.	Age.	Para.	Intersp.	Intercr.	Ext. c.	Diag. c.	C. ver.	Durat. in hrs.
1	24	1	9¼	9½	7¼	4¼	—	137.30
2	23	1	10	10¼	7	3¾	—	116.50
3	27	1	8	9	6½	4	—	52.30
4	28	1	9¾	10¼	7	4	—	180.30
5	23	1	9½	10	7½	4¼	—	183.30
6	37	5	10½	11	6½	3¾	—	148.5
7	36	3	10¼	11	7½	4¼	—	22
8	39	5	11	11¼	6½	—	3¼	50
9	32	3	9¾	10	7	4	—	57.10
10	34	8	10	10¼	7½	4	—	80
11	28	6	9¼	10¼	7¼	3¾	3¼	50
12	43	5	9¾	10¾	7	4¼	—	143
13	31	5	10½	11	6½	3½	3¼	28
14	31	6	9	10½	7¼	4¼	—	54
15	38	3	9¾	11¼	7¼	4	3½	78
16	31	2	9½	10¼	7½	4	—	139.30
17	32	7	10¼	10½	7¼	4	3½	81

Pelvis. Labour Unaided.

Weight.	Length.	Cir. of hd.	Born alive.	Position.	Mother.	Child.	Term.
5.8½	20	13	Yes	LOA	G.	G.	Full.
5.14	20	13	„	ROA	G.	G.	„
6.0½	21	13½	„	ROA	G.	G.	„
5.11	20	?	Dead †	LOA	G.	D.	„
8.12	20	13¾	Yes	ROP-A	G.	G.	„
6.3	20	13	„	LOA	G.	G.	„
5.4¾	19½	12¾	„	LOP-A	G.	G.	„
7.0½	20	13½	„	LOP-A	G.	G.	„
4.13½	18	13	„	LOP-A	G.	G.	36/52
8.6	22	14¼	„	ROP-A	G.	G.	Full.
6.7	20	14	„	LOP-A	G.	G.	„
6.5	21	15	* —	LSA	G.	D.	36/52
8.10	21½	14¼	Yes	ROP-A	G.	G.	Full.
6.0¾	19½	13	„	LOA	G.	G.	39/52

* Hydrocephalus. † Macerated.

Labour Induced by Bougies.

Weight.	Length.	Cir. of hd.	Born alive.	Position.	Mother.	Child.	Term.
7.8½	23	14½	Yes	LOA	G.	G.	Full.
4.14	19½	13½	„	LOA	G.	G.	38/52
5.11¾	20	13½	„	ROA	G.	G.	37/52
5.8¾	19½	13	„	LOA	G.	G.	38/52
5.14	21	13½	„	ROP-A	G.	G.	Full.
5.13¾	19½	13	„	LOA	G.	G.	37/52
7.4¾	20	14	„	LOA	G.	G.	Full.
6.3¾	19	12¼	„	LSA	G.	G.	„
5.15	20	13½	Dead	ROA	G.	D.	38/52
4.7	17	11½	Yes	LSA	G.	G.	33/52
6.11½	21	14	„	LOA	G.	Died *	Full.
6.8½	21	13	„	ROP-A	G.	G.	36/52
5.10	19	13	„	ROP-A	G.	G.	37/52
5.6	19½	13½	„	ROA	G.	G.	38/52
6.4¾	20	13½	„	ROP-A	G.	G.	36/52
6.0	18½	13	„	ROP-A	G.	G.	35/52
4.13½	18¾	11	„	ROA	G.	G.	36/52

* Imperforate anus.

TABLE III.—

No.	Age.	Para.	Intersp.	Intercr.	Ext. c.	Diag. c.	C. ver.	Weight.	Length.
1	26	1	—	—	—	3	—	6.10¼	20
2	23	1	—	—	—	3½	—	7.6	21
3	33	1	11¼	11⅝	7¼	3¼	—	7.2¾	21
4	19	1	10½	10⅝	7	3¾	—	7.14	21
5	25	5	9½	9¾	6½	3½	—	5.5	19½
6	24	4	9¾	9¼	6	3¼	—	7.9¾	22
7	36	4	10½	10¾	6¾	3½	—	6.3¼	—
8	36	4	10½	10½	6½	3¾	3⅛	6.11½	21½
9	35	7	10	10½	—	3¾	—	7.9½	20
10	33	2	Dermoid cyst			—	—	6.15	—

TABLE IV.—*Cases of Con-*

No.	Age.	Para.	Intersp.	Intercr.	Ext. c.	Diag. c.	C. ver.	Weight.	Length.	Cir. of hd.	Term.
1	22	1	9½	10¾	7	4	—	8.8¾	23	15	Full
2	46	9	10¼	10¼	7¼	4¼	3¾	6.12	20½	13⅛	37/52
3	28	2	11¼	11½	7⅝	4¼	3¾	8.8	22	15¼	Full
4	31	5	9	9¾	7	3¾	3½	4.15	18	12½	37/52
5	33	3	9½	10½	7¼	—	3½	7.9½	21	14¼	Full
6	14	1	9¼	9⅝	6⅝	—	3½	7.7	22	14	,,
7	27	1	9¼	10½	7¼	—	3½	6.12½	21	14	,,
8	24	1	10	10¼	7¼	3½	3¼	5.15	20	13	,,
9	20	1	8	9	7	3¾	—	6.8¼	20	14	,,
10	22	1	9½	10¼	7¼	4¼	—	7.3½	21	14	,,
11	29	1	10	10¾	7¼	4¼	—	8.14	21½	14¼	,,
12	23	1	10	10¾	7¼	4¼	—	7.11	22	13½	,,
13	32	3	9¼	10¼	7	4	—	7.12½	22	14¼	,,
14	24	2	8½	9	7	4	—	8.6¾	23½	15	,,
15	41	4	10¼	10½	7¼	—	3½	7.14¼	20	14¾	,,
16	36	10	10	10¼	—	4	—	9.1¾	23	15	,,
17	18	1	9½	10¼	7¼	4	—	5.6½	20	12½	,,
18	22	1	9¼	10¼	7½	3¾	—	7.13¼	22	14½	,,

TABLE V.—*Cases of Contracted Pelvis,*

No.	Age.	Para.	Intersp.	Intercr.	Ext. c.	Diag. c.	C. ver.	Weight.	Length.	Cir. of hd.
1	39	5	11	11¼	6½	—	3¼	6.3¼	19	12¼
2	27	2	10	11	7¾	4	—	8.15½	24	13
3	23	6	10	10½	6¾	4	—	7.1¾	21	14
4	28	1	9½	10¼	6½	4	—	7.12	23	14¾
5	34	7	9	10	7⅞	—	3¾	7.6	21	14
6	37	8	9	10¼	7	3¾	—	7.0¼	21	13½

Cæsarean Sections.

Time.	B. alive.	Mother.	Child.	Remarks.
Full	Yes	G.	G.	—
„	„	G.	G.	—
„	„	G.	D.	Cord prol'd, inf. died 3rd day.
„	„	G.	G.	—
„	„	G.	G.	—
„	„	G.	G.	—
„	„	G.	G.	—
„	„	G.	G.	Second time.
„	„	G.	G.	—
„	Dead	D.	D.	*v.* 'Clinical Report of Queen Charlotte's Hospital for 1905,' Case III, p. 3.

tracted Pelvis. Forceps.

B. alive.	Position.	Mother.	Child.	Remarks.
Yes	LOP-A	G.	G.	Ind. by bougie, time 96.25. P.P.H.
„	LOP-A	Fair	G.	„ „ „ 57.35. Phthisis.
„	LOA	G.	G.	„ „ „ 95.15.
„	ROP-A	G.	G.	„ „ „ 50.30. Delay on perin.
„	LOA	G.	G.	„ „ „ 74.40.
„	LOP-A	G.	G.	Man. dil. of os. and rot. of hd. Axis tract.
„	ROP-A	G.	G.	„ „ „ „
„	ROP-A	G.	G.	Manual rot. of hd. Axis traction.
„	LOA	G.	G.	Easy delivery, pains weak. Low forceps.
„	LOP-A	G.	G.	Manual rot. of hd. Axis traction.
„	ROP-A	G.	G.	„ „ „
„	LOP-A	G.	G.	„ dilation of os. „
Dead	ROP-A	G.	D.	Prolapse of cord, cord round neck and arm.
Yes	LOP-A	G.	G.	Man. dil. of os and rot of hd. Axis tract.
„	ROP-A	G.	G.	Axis traction, high.
„	LOA	G.	G.	„ P.P.H.
„	ROP-A	G.	G.	Rotation spontaneous.
„	LOP-A	G.	G.	Prolapse of cord.

in which Version was Performed.

Position.	B. alive.	Term.	Mother.	Child.	Remarks.
LSA	Yes	Full	G.	Fair	Ind. by bougies, trans. pres.
Trans.	„	„	G.	G.	Hydram. trans. pres.
LOA	„	„	G.	G.	Pro. of cord, hd. above brim.
ROP	Dead	„	G.	D.	Forceps failed.
RMP	Yes	„	G.	Died	Brow, infant died of shock.
Trans.	„	„	G.	G.	Shoulder case.

infants were lost. Prolapse of the cord occurred in 4 cases, in two of which the infants died. Presentations other than vertex occurred in six cases, one brow, two breech cases, and three shoulder presentations being found.

The treatment of contracted pelvis appears to be narrowing down to two methods of election, namely induction and Cæsarean section; and speaking generally, it seems that the former method is the most satisfactory to employ with a pelvis on the large side of $3\frac{1}{2}$ inches, and the latter gives good results when the conjugate is on the small side of $3\frac{1}{2}$ inches.

Dr. Rivers Pollock congratulated Dr. Longridge on his excellent report of the work of the past year at Queen Charlotte's Hospital. He thought that Dr. Longridge, however, had spoken too disparagingly of the use of de Ribes's bag as a means of bringing on labour. If bougies had failed for three or four days he urged the introduction of de Ribes's bag, which could be easily inserted when the uterus would only admit one finger. Though the labour might not actually have come on if a bougie had been in the os uteri for three days the os was sufficiently dilated by the presence of the bougie to enable the operator to introduce the bag with ease. So soon as the bag had been expelled the os was large enough for delivery, which could easily be effected by bipolar version and extraction of the child even in the event of pains. For whether the uterus was emptied by Cæsarean section before pains had come on or by version and immediate delivery it always retracted and contracted sufficiently for the placenta to be detached and safely expelled and hæmorrhage controlled.

Mr. Targett congratulated Dr. Longridge on his interesting and valuable clinical report of the work done at Queen Charlotte's Hospital during 1905. With regard to the use of Champetier de Ribes's bag, he had found it a valuable means of inducing uterine action when bougies had failed to excite premature labour. He thought that it was best to introduce the bag in the Sims position and to place it between the membranes and the uterine wall. By so doing compression of the umbilical cord was prevented, and the premature child did not suffer from direct uterine pressure as after the escape of the liquor amnii.

A NOTE ON ADENOMA OF THE LABIUM.

By Herbert Williamson, M.A., M.B.

(With Plates XVI, XVII.)

My object in writing this note is to draw attention to a rare form of tumour of the labium which is liable to be mistaken clinically for squamous-celled carcinoma.

Three years ago Dr. Champneys removed from the labium of a lady a small tumour which he regarded as an epithelioma. Microscopic examination showed that the growth was composed of glandular tissue, and that the ulceration of the surface was of a simple, not of a malignant, type. Dr. F. W. Andrewes pronounced the growth an adenoma, but from the irregular appearance of some of the epithelial masses I felt doubtful of the diagnosis, and thought the nodule might be a secondary deposit of a glandular cancer primary in some other part of the body. I have waited three years before reporting this case, and as the lady is still in good health I am convinced that Dr. Andrewes was right and that I was wrong.

I am indebted to Dr. Champneys for the clinical notes of the case and for his kindness in investigating the after-history.

The patient was an unmarried lady, aged 62, who for two and a half years had suffered from a slight blood-stained vaginal discharge, and on one occasion, a year before consulting Dr. Champneys, had had a sudden hæmorrhage, the quantity of blood lost being sufficient to soak one diaper.

At the free edge of the right labium majus, near its anterior extremity and at some distance from the orifice of the right vulvo-vaginal duct, was a small growth the size of a split-pea. The growth was soft, of a pink colour, ulcerated on the surface, and bled very readily on touch. No enlargement of the inguinal gland could be detected.

The growth was removed in March, 1903, and at the present time (June, 1906) the patient's doctor reports that she is in good health and that no recurrence has taken place.

Microscopic examination.—The tumour was attached to the labium by a broad base composed of delicate connective tissue in which are imbedded groups of large, thin-walled vessels. The base of attachment and the proximal part of the tumour are covered by several layers of stratified squamous epithelium; the distal portion evidently possessed originally a similar epithelial covering: traces of it still remain, but for the most part it has been destroyed by a process of ulceration. The glandular tissue which constitutes the greater part of the growth is partially subdivided into lobules by fibrous septa, and is marked off from the subjacent connective tissue by an incomplete capsule of concentrically-arranged fibres.

The tumour consists of irregular glandular formations imbedded in a delicate, loose-meshed, connective-tissue stroma. The gland acini and ducts vary in size and form; some are lined by a single layer of tall, columnar cells resting upon a well-marked basement membrane, and possessing a vesicular nucleus situate near the base of the cell, some are dilated and form cystic spaces.

The whole growth, however, is not of this simple type; many of the lumina are lined by two or three layers; the deeper cells rounded the more superficial columnar, but the basement membrane is still preserved intact. Some of the tubes show irregular branchings and anastomoses between the branches of adjacent acini; there are also present, imbedded in the stroma, masses and solid columns of epithelial cells; these are for the most part sharply defined from the surrounding connective tissue, and possess characters similar to those of the cells which line the lumina. It was the presence of these irregular columns and masses which made me suspicious that the tumour was possibly of a malignant nature. The stroma at the more superficial part of the tumour is infiltrated with inflammatory cells.

DESCRIPTION OF PLATE XVI,

Illustrating Mr. Herbert Williamson's paper on Adenoma of the Labium.

a, Surface covering of squamous epithelium.
b, Incomplete fibrous capsule.
c, Adenomatous growth.
d, Ulcerated area of surface.

Illustrating Mr. Herbert Williamson's paper on Adenoma of the Labium. (Low power.)

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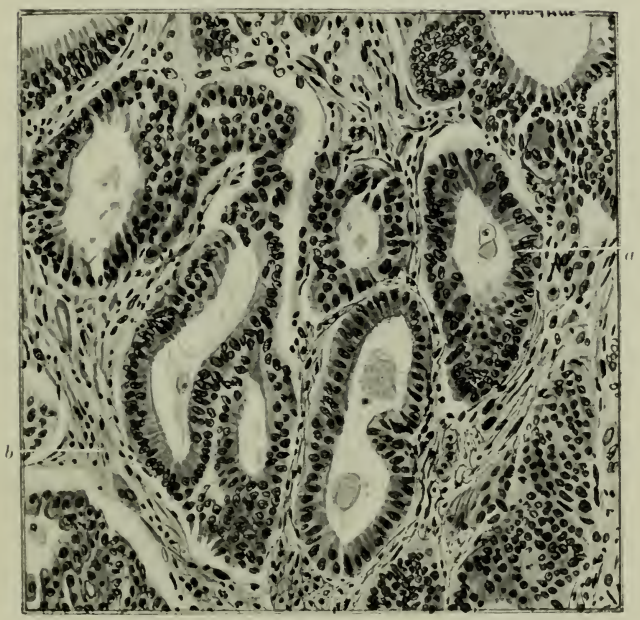
DESCRIPTION OF PLATE XVII,

Illustrating Mr. Herbert Williamson's paper on Adenoma of the Labium.

a, Glandular structure.
b, Connective-tissue stroma.



Illustrating Mr. Herbert Williamson's paper on Adenoma of the Labium.

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I have succeeded in finding records of three similar growths; two cases are reported by Pick and one by Schickele. As far as I am aware no description of these tumours is to be found in English literature.

Case 1 (L. Pick).—An unmarried woman, aged 40, had noticed for the last two years a small tumour on the posterior part of the left labium majus. Shortly before she sought advice two others had appeared, one on the right labium and the third on the left labium.

On examination a small, red-coloured tumour the size of a bean was seen on the inner aspect of the right labium majus, near its free border, at the level of the urethral orifice; a second, somewhat larger, was situated on the left labium, close to the opening of Bartholin's duct; and near to this was a third, smaller, one. All the tumours presented similar characters: they were hard, the surface was smooth and covered with hair, they could be separated from the skin and could be moved easily on the deeper structures.

The tumours were removed, and at the time the case was reported no recurrence had taken place.

The microscopical appearances were almost identical with those of the tumour I have described.

Case 2 (L. Pick).—The patient was a woman, aged 45, the subject of arthritis deformans, affecting both hands and feet, and also of prolapsus uteri. A single small tumour was situated in the posterior part of the right labium majus and possessed characters very similar to those of the previous case. Its surface was smooth, the growth could be separated from the skin and was freely movable upon the deeper tissues.

The microscopical appearances differed from those in the previous case only in certain minor points; the gland-ducts were extremely tortuous, there was no cystic dilatation, there was no definite capsule, and the growth was not lobulated.

Case 3 (Schickele).—The patient was 35 years of age and had borne three children; like the patient in the previous case, she suffered from prolapsus uteri. In the upper part of the right labium minus was a nodule the size of a cherrystone. It was soft, movable on the underlying structures, but attached to the skin.

The microscopical examination showed that the tumour, which possessed a glandular structure, was composed of epithelial ducts, but the ducts nowhere reached the surface. Immediately beneath the skin were small masses of round cells.

The pathology of adenomatous growths of the vulva is not easy to understand; two theories have been suggested, one by Schickele, the other by Pick. Schickele believes that the tumours arise in connection with abnormal rests of the Wolffian duct; he bases his view upon the resemblance which the growths bear to the kidney, the testicle, and to Wolffian structures in general. To my mind there are two objections to this theory. First, the varying situations which the growths occupy; sometimes they are found in the anterior, sometimes in the posterior, part of the labium majus, and sometimes in the labium minus; had they developed in connection with an embryonal structure one would expect them to occupy a more constant position. Secondly, as far as I am aware no one has ever found Wolffian remains in the labium, and it is difficult to understand how they could reach that situation, for in animals which possess a persistent Wolffian duct this structure terminates in the vagina, not in the labium.

Pick regards these growths as adenomata arising in connection with sweat-glands and proposes for them the name "hidradenomata." He bases his opinion upon the resemblance between the growths and the normal sweat-glands, and upon the fact that a few cases of adenomata described in connection with sweat-glands in other parts of the body possess many points in common with these tumours. I have cut sections from five specimens of the labium minus taken from the *post-mortem* room and have

failed to find sweat-glands in any of them; they are, however, sometimes to be found in this situation, and have been described and figured by Clarence Webster in his study of the nerve-endings in the labia minora.

I have already remarked that when I examined the section I was in grave doubt as to whether the tumour was a secondary nodule of glandular cancer. At that time Pick's paper had not been published, but on reading it later I was interested to find that he had been struck by the close resemblance of these growths to malignant adenomata. "Indeed," he writes, "at first I took them to be metastases of such a growth." Schickele still regards them as probably of a malignant nature.

The case I have recorded has been under observation longer than any of the three previously published, and therefore after waiting three years I offer it as a contribution to the natural history of these growths.

References.

1. Pick.—Ueber eine besondere Form nodulärer Adenome der Vulva. Archiv für Gynäkol., 1904, p. 347.

2. Schickele.—Weitere Beiträge zur Lehre der mesonephrischen Tumoren. Hegar's Beiträge zur Geburts u. Gynäkol., Bd. 6, H. 3, 1902.

3. Webster.—The Nerve-Endings in the Labia Minora and Clitoris. Edin. Med. Journ., vol. xxxvii, p. 35.

Dr. Herbert Spencer did not think that these growths were so rare as appeared in the paper. He had met with two cases himself, which had been sent to him by Sir John Williams, and thought that Dr. Williamson had overlooked some cases in the literature. His own cases closely resembled the growths described by Pick and Dr. Williamson and occurred in the inner side of the right labium majus. He knew that one of the cases had remained free from recurrence for eight years.

The origin of these growths was by no means certain. Mr. Lawrence, the curator of the museum at University College, was of opinion that they probably arose in sebaceous glands on the grounds that they have a distinctly lobulated structure and

the tubules have such a distinctly racemose arrangement as to leave no doubt that they did not arise from tubular glands.

Dr. Williamson, in reply, said that he thought the tumours referred to by Dr. Spencer were sebaceous adenomata and belonged to a class different from those now under discussion. He had read three or four reports of such growths, and had seen one case, but he could not admit that the section shown to-night was part of a sebaceous adenoma.

CÆSAREAN SECTION AND TOTAL ABDOMINAL HYSTERECTOMY FOR FIBROIDS COMPLICATING LABOUR NEAR TERM IN A PATIENT WHO HAD RECOVERED WITHOUT OPERATION FROM RUPTURED TUBAL PREGNANCY.

(With Plate XVIII.)

By Herbert R. Spencer, M.D., B.S., F.R.C.P.

Mrs. B—, aged 28, nullipara, married three years, was sent to me by Dr. Savage, of Auckland, New Zealand, on July 1st, 1902, complaining of severe menstrual pain which was most intense on the second and third days, also of considerable loss at the periods, which required twenty-one diapers each time.

There had been no difficulty or pain on connection and there was no leucorrhœal discharge.

The bowels and bladder gave no trouble. Menstruation commenced at fourteen and had always been regular. The patient occasionally used to have menstrual pain before she was married, but always since.

Her mother died of cancer of the bowel; her father was living and healthy; one sister was married and had three children.

The uterus was of the size of a large fist and contained several fibroids; it could be felt by the abdomen; it was freely movable. The sound was not passed.

Hydrastis was prescribed, but without any benefit, the

menstrual flow being somewhat increased, requiring twenty-four diapers each time.

On January 26th, 1903, the uterus had increased in size and was very hard. A small sub-peritoneal fibroid was felt on the right side of the uterus. The pain continued.

The patient was extremely anxious to have a child and not to have any operation which would be likely to diminish the chance of maternity.

On July 29th, 1903, I saw her again. She had less pain and the menorrhagia was somewhat lessened by her resting in bed for two days. The uterus was as on the last occasion.

On February 14th, 1904, I was called to see the patient at Brixton, in consultation with Dr. Braidwood, of Epsom. She had gone a fortnight over her time and had been seized with severe abdominal pain and faintness. When I saw her in bed she was exceedingly pale ; the pulse was frequent, but not very feeble. Fluctuation could be obtained all over the abdomen, showing the presence of a large quantity of fluid. It was clear that she had a ruptured or aborted tubal pregnancy with free intra-peritoneal hæmorrhage.

The general condition of the patient was fair, and it was decided that Dr. Braidwood should stay all night in the house and summon me by telephone to operate if necessary. Next day the patient was somewhat better; she was removed in an ambulance to a nursing home, where, in the course of three weeks, the blood was absorbed and the patient quite recovered.

Menstruation recurred in March and April, 1904, and was of about the usual amount.

The uterus was not bigger than before. The small body on the right side was apparently an ovary.

The patient ceased to menstruate on July 4th, 1904, five months after the ruptured tubal pregnancy. I saw her on January 10th, 1905, when she was six months pregnant. The uterus was rendered irregular by the presence of the fibroids and was much larger and broader

than normally at the sixth month. It reached up for nine inches vertically above the pubes and measured about the same transversely. The cervix was pushed forwards by a hard fibroid, nearly as big as the fist, which descended into the pelvis considerably below the level of the cervix. The patient was very well and had no trouble with the urine.

A month later, however, the legs, hands, and face began to swell, and the urine became almost solid on boiling from the presence of albumen. She was treated by Dr. Braidwood with milk diet with much benefit, the swelling largely subsiding, although the albumen remained, but in smaller amount.

The patient came up from the country to a nursing home on March 16th, being about 8½ months pregnant. The abdomen was greatly distended, the limbs and abdominal wall were œdematous; there was a quantity of free ascitic fluid present and the urine contained albumen. On March 19th, 1905, at 3 a.m. I was called to see her and found that the membranes had burst and labour had commenced; the os was as big as a shilling and a foot presented. The fibroid which had been in the pelvis was drawn up so that it could only just be reached with the finger. It appeared that the child might be delivered *per vaginam*, but the fact that the membranes had been broken while the os was small and that the presentation was a footling rendered it probable that the child would be stillborn. The patient had gone through much pain, trouble, and risk for the purpose of obtaining a living child, and as this would almost certainly be obtained by Cæsarean section, I decided on that mode of delivery, a decision which was cheerfully accepted by the patient.

I also decided to remove the uterus afterwards by total hysterectomy in order to remove the pressure of the large organ and a possible source of infection, the danger of which would be increased by the pressure of albuminuria and ascites and the anæmic condition of the patient. Further reasons for removing the uterus were the pain

and hæmorrhage at the periods, which confined her to bed for two days, and the presence of fibroids in the line of the incision.

The operation was put off till 10 a.m. in order to have the advantage of daylight. The abdomen was prepared in the usual way and a 1 in 4000 perchloride of mercury douche and an enema were given. I did not use formalin douches as is my custom before performing hysterectomy, owing to the fact that the membranes were ruptured.

On opening the abdomen about three pints of opalescent ascitic fluid escaped. The uterus was rotated by the pressure of the tumour on the right side of the fundus through a quarter of a circle, so that the left broad ligament and ovary were almost in the middle line, under the abdominal incision.

As the uterus could not be pushed over to the left I enlarged the incision and withdrew the uterus from the abdomen, a practice which I do not adopt in ordinary Cæsarean section. The patient then strained and most of the intestines escaped from the abdomen and were covered with hot wet gauze. The straining was due to the administration of a very little chloroform at my request in the interest of the child. The uterus was opened by the usual anterior longitudinal incision without much hæmorrhage and the child was delivered in three minutes from the commencement of the operation, a good part of which was spent in replacing and covering the intestines.

I then removed the uterus, together with the right ovary and tube, by total abdominal hysterectomy (Doyen's method), which I found very easy; only four vessels required ligature. The peritoneum was closed with a purse-string suture of fine silk. The abdomen was closed by through stitches of silkworm gut, fascial stitches of silk, and horse-hair stitches for the skin. The whole operation lasted seventy-five minutes, 2 oz. of chloroform on lint and 3 oz. of ether being given for anæsthesia. The child, a boy weighing $4\frac{1}{2}$ lb., was healthy, not

asphyxiated, and cried as soon as it was born. The wound healed by first intention and the patient recovered well, but gave me a good deal of anxiety during convalescence owing to the formation of an abscess in the peritoneum and a slight attack of pleurisy. The wound had to be opened in two places to evacuate the pus. It was over two months before the tracks of the drainage-tubes were completely closed.

The albumen disappeared from the urine within a few days after the operation.

On October 3rd, 1905, over six months after the operation, I saw the patient and her child, both being in excellent health. The mother looked better than I had ever seen her. The child, which was still being suckled by a wet nurse, weighed (the mother told me) 16 lb., and was in perfect health. The only thing the patient complained of was that a good deal of her hair had fallen off since the operation. On questioning her it was found that sexual desire and sexual gratification were diminished since the operation, and there was slight pain but no difficulty in coitus.

The scars, abdominal and vaginal, were sound and there was no relapse.

The uterus (see Plate XVIII) weighed 6½ lb., and in the empty hardened state was 11 inches long, 9 inches wide, and 6½ inches thick. The Cæsarean section wound measured 4½ inches in length, and inclined obliquely downwards and to the left side to avoid a fibroid in the anterior wall, which in antero-posterior section measured 2⅛ inches and 1⅝ inch; the muscular wall near the small fibroid was greatly hypertrophied, measuring 1¾ inch in thickness, and the part of the anterior wall which contained the fibroid was 2⅝ inches thick. The wall to the left of the incision was also greatly hypertrophied, measuring 1½ inch in thickness, although it contained no visible fibroid.

Between the upper end of the incision and the right round ligament was a subperitoneal fibroid measuring 4¾ by 4 by 3⅝ inches; its pedicle, measuring 6 inches in

DESCRIPTION OF PLATE XVIII,

Illustrating Dr. Herbert Spencer's specimen of Cæsarean Section and Total Abdominal Hysterectomy for Fibroids complicating Labour near Term in a Patient who had Recovered without Operation from Ruptured Tubal Pregnancy (half natural size).

A view of the uterus and right appendages seen from the right side. At the outer end of the right Fallopian tube is a rounded swelling with a small hole in it, in which the mole is visible. A few flimsy adhesions run from this part of the tube to the uterus, ovary, and the smaller of the sub-peritoneal fibroids. The larger of the sub-peritoneal fibroids has its pedicle somewhat twisted.

Illustrating Dr. Herbert Spencer's specimen of Cæsarean Section and Total Abdominal Hysterectomy for Fibroids complicating Labour near Term in a Patient who had Recovered without Operation from Ruptured Tubal Pregnancy (half natural size).

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circumference, was twisted about a quarter of a turn by the tumour's rotating as in the direction of the hands of a clock when the tumour was viewed from above. The posterior part of the pedicle was stained with hæmorrhage, and in the anterior part of the pedicle a large vein was seen passing from the middle of the tumour across the pedicle into the adjacent part of the body, which on section showed patches of congestion; the fibroid in the anterior wall also showed distinct red discoloration except at the central part; the capsule of this tumour was partly calcified.

Projecting from the wall of the posterior aspect of the uterus was another subperitoneal fibroid (which during pregnancy descended into the pelvis), as big as a small orange, and the surface of the organ was rendered uneven in several places by small interstitial fibroids; the larger tumours were evidently calcified in places.

Between the two subserous tumours lay the right Fallopian tube and ovary, with some adhesions around them; one of these adhesions was a $\frac{1}{4}$ inch broad, ran like a band to the adjacent front of the uterus from the Fallopian tube at the junction of its middle and outer thirds; another band ran from near the extremity of the tube, but the fimbriæ were quite free from adhesions and admitted a large probe, which passed up the tube for about an inch and emerged at a small accessory ostium beset with a few fimbriæ. Beyond this, at the junction of the outer and middle thirds, the right Fallopian tube was distended by a tubal mole to the size of a thrush's egg, and the prominent part of the swelling near to the attachment of the band-like adhesion showed a circular, ragged aperture $\frac{1}{4}$ inch in diameter, from which a brown-red blood-clot protruded (see Plate XVIII). The right ovary was slightly enlarged and was covered with adhesions.

The whole of the uterus had been removed in one piece. The external os was of the size of a florin and had not been lacerated; its edge was $\frac{1}{8}$th inch in thickness; the supravaginal cervix was much thinner, almost as thin as cardboard in places.

A microscopic section from the blood-clot of the mole showed blood containing numerous chorionic villi, most of which were degenerated, stained feebly and appeared as ghosts, but one of the villi took the logwood stain well.

We have in this case an interesting example of complete recovery from tubal pregnancy without operation, of which I have seen many instances.

The complete recovery and the occurrence of intra-uterine pregnancy within five months of the accident, terminating in the birth of a living child, afford some encouragement to those who believe in the non-operative treatment of early tubal pregnancy and of fibroids in the absence of serious symptoms.

In this Society, as well as in France and Germany, attention has been directed on several occasions to the frequency with which fibroid uteri are being removed in the early months of pregnancy. My own experience is strongly in favour of the view that such operations are rarely necessary.

The only other case in which I have performed hysterectomy for fibroids complicating pregnancy has been published in the 'Obstetrical Transactions' (vol. xxxviii, p. 389). In that case the operation was a supra-vaginal amputation following Cæsarean section. I have recently seen the mother and her child, who are well fourteen years after the operation.

With regard to the operation performed I believe that, given the advisability of performing hysterectomy in the case of fibroids complicating labour, the whole organ should nowadays be removed. Very few cases, however, have been operated upon by total abdominal hysterectomy during labour in late pregnancy with success to the mother and child. Indeed, I have not succeeded in finding a case recorded, though several have been operated on during late pregnancy before labour set in. Dr. Smyly operated by the combined operation with success to the mother and child, and Mr. Bland-Sutton operated by

total abdominal hysterectomy with success to the mother on a patient nearly six and a half months pregnant, but did not perform Cæsarean section, the child being supposed to be dead before the operation was undertaken.

Dr. Eden said that Dr. Spencer's specimen appeared to him to be interesting from three points of view: (1) the case showed an instance of remarkable fertility in a woman the subject of uterine fibroid tumours, both extra-uterine and uterine conception having occurred with an interval of only four months; (2) the specimen illustrated the local results of tubal rupture and intra-peritoneal hæmorrhage treated by the expectant method—a method not often practised at the present time; (3) an interesting point he observed in the specimen was that the rupture in the tube showed no evidence of repair although fourteen months elapsed between the occurrence of rupture and the removal of the uterus. Could Dr. Spencer explain the absence of repair in the tube?

In reply Dr. Herbert Spencer said that the patient, who had a fibroid as large as a fist, had been married for five years without becoming pregnant; after the tubal pregnancy she lost less at the periods than for many years previously. Possibly the separation of the decidua had been followed by the growth of a healthier endometrium, which explained the occurrence of an intra-uterine pregnancy so soon after the ectopic gestation. He thought the non-closure of the tubal rupture might be due to secretion from the tubal epithelium.

A FIBROID SHOWING CYSTIC DEGENERATION REMOVED THREE WEEKS AFTER LABOUR.

Shown by Dr. Henry Russell Andrews.

The patient from whom I removed this specimen was sent to me three weeks after her first confinement.

She was 33 years of age, and had been married one year. She was not aware that she had any abdominal tumour until some days after labour, but said that her "abdomen had always been large." The labour was very easy. The membranes ruptured at 4 p.m. one afternoon, but, as she

had no pain or discomfort, she did not think that the flow of fluid was of any importance, and went about her household duties in the usual way on that evening and the next day. At 11 p.m. the next evening, thirty-one hours after rupture of the membranes, labour pains came on and a living full-term child was born about two hours later. Her doctor found a large abdominal tumour attached to the uterus after the birth of the child, and thought at first that there might be a second child in a double uterus. There was no fever during the puerperium, and the lochia were normal in every way.

When I saw the patient she looked very ill, her face was drawn and haggard, and she was very thin. The temperature was normal, the pulse 100 per minute.

On abdominal examination an elastic, almost uniform, swelling, apparently fixed, was found rising out of the pelvis to a point halfway between the umbilicus and the ensiform cartilage. The greatest circumference of the abdomen was 32 inches, just below the umbilicus. A fluid thrill could be obtained through part of the tumour. There was some abdominal tenderness, but not much pain.

On vaginal examination the uterus, considerably enlarged and freely movable, was found to be lying below and in front of the tumour. No connection could be made out between the uterus and the tumour.

I thought that the tumour was an ovarian cyst, inflamed and possibly suppurating as the cachexia was so marked. I operated two days later and found a greyish-yellow tumour universally adherent to the anterior abdominal wall, the omentum, and the posterior parietal peritoneum just below the transverse colon. All the adhesions were soft and recent. The tumour was connected with the fundus of the uterus by a pedicle about one inch in length and a little less than an inch in thickness. The pedicle was cut through, and the wound on the fundus closed by a few catgut sutures. Both ovaries were healthy.

There was a good deal of oozing from the posterior surface of the abdominal cavity just below the transverse

colon, so a small gauze drain was inserted, removed on the third day.

The patient made an excellent recovery. She soon lost her haggard, cachectic appearance, and began to put on flesh. The tumour seemed to have had a toxic effect on her, and on the third day after the operation she said that she felt better than she had done for weeks.

The tumour weighed 7½ lb. On section it was found to be partly cystic and partly solid. The contents of the cystic part were diffluent and pulpy, looking like altered blood. The solid contents were of a greyish colour tinged with red, showing more or less the characteristic appearance of a uterine fibroid. I thought that the tumour was worth showing to-night as being an unusual specimen of degeneration connected with pregnancy, and also because cystic degeneration of a fibroid is rare at the age of 33.

Dr. Boxall inquired whether any evidence of twisting of the pedicle was found at the operation. From the recent character of the adhesions it might be inferred that the damage to the tumour occurred when delivery took place. Even a temporary and partial torsion of the pedicle may have caused permanent damage to the tumour without leaving evidence in the pedicle itself.

In reply, Dr. Andrews said that he had expected to find a twisted pedicle, but the thick, muscular pedicle of the tumour was not twisted nor did it show any signs of having been twisted.

A LARGE CYSTIC FIBROID.

Shown by Dr. Henry Russell Andrews.

The patient was a multipara, aged 56. The menopause occurred at forty-nine. She had noticed an increase in the size of the abdomen for twelve months, and had been much inconvenienced by it for the last few months.

On abdominal examination the abdomen was found to be greatly distended, the circumference at the level of the

umbilicus being 49½ inches. The liver was pushed up and the movements of the diaphragm impeded by a large, thin-walled cystic swelling which rose out of the pelvis.

On vaginal examination a small senile uterus could be felt below the tumour. On account of the distension it was impossible to say whether there was any connection between the tumour and the uterus. There was œdema of the legs and a slight amount of œdema of the abdominal wall. I diagnosed the tumour as an ovarian cyst.

On opening the abdomen a little free fluid escaped. The surface of the tumour was smooth, grey, and glistening. A trocar was inserted but no fluid ran through it, so an incision was made into the tumour giving exit to a large quantity of brown, watery fluid, and masses that looked like old blood-clot. The tumour was adherent to the omentum, to the bladder, and to the lower surface of the transverse colon.

After separating the adhesions and drawing the collapsed tumour out of the wound a pedicle, about an inch and a half long and as thick as one's thumb, was found uniting the tumour to the right cornu of the uterus. This was ligatured and cut through, and the stump was covered by sewing the broad ligament over it. The patient made an excellent recovery.

The tumour was very thin-walled, being translucent in some places. On its surface were two or three small fibroids, one of which much resembled a small loculus of an adenomatous cyst. Another had liquefied and discharged its contents into the main cavity through a small opening which looked like that of a Fallopian tube into a tubo-ovarian cyst.

PRIMARY CANCER OF THE OVARY.

(With Plates XIX to XXIII.)

By A. Louise McIlroy, M.D., Glasgow.

(Received March 28th, 1906.)

(*Abstract.*)

Conclusions from the clinical standpoint.

Primary cancer of the ovary occurs in women about the time of the menopause or after, but is found in young patients; in the latter cases menstruation is influenced, cessation of the periods occurring.

Previous child-bearing has no influence. Pain is not a marked symptom, patients seeking operation on account of the swelling of the abdomen. Ascites is present in most cases. Metastasis depends upon the duration of the disease and the integrity of the tumour capsule. The probability of recurrence is great. Malignancy is rarely suspected previous to the operation.

From pathological investigations.

Both ovaries are frequently affected, one showing a more advanced stage of the disease than the other.

In early stage the capsule is firm, later on becomes broken down and tumour tissue proliferates through it. Germinal epithelium is absent as a rule. No Graafian follicles or corpora lutea found.

Previous benign change in the ovary always present. The most common forms of cancer in the ovary are the glandular cystic form and the alveolar with connective tissue increase.

The growth is found near the surface and in the folds in early

specimens. The origin of the growth is from the follicle cells, and from cells which have been derived from the germ epithelium.

The so-called ova of the German pathologists are masses of degenerated protoplasm, they are retrogressive products of the follicle cells.

Karyokinesis is not well marked in these cancer-cell tumours.

The cells found in cancer of the ovary resemble those found in benign growths, but differ in their distribution, irregular arrangement, and in the amount of proliferation.

On reading over the literature on the subject of primary cancer of the ovary one is struck by the number of cases of this disease which are reported without any detailed statement as to the condition found on microscopical examination.

Having had the opportunity during the past three years of investigating a number of specimens of this condition, I venture to bring before the Society the results of my researches.

I took as a basis for my work fifteen cases of undoubted cancer of the ovary. All cases of sarcoma or endothelioma were excluded.

I have to thank Dr. Kelly, with whom I am associated in the Glasgow Royal Infirmary, for his permission to make use of the material under his care.

I have also received specimens through the kindness of Professor Murdoch Cameron, Dr. W. L. Reid, Dr. Edgar, and Dr. John Teacher. Before entering upon the description of the pathological conditions which were found, I shall briefly give an outline of the most important points to be noted in the *clinical* investigation.

With regard to the *frequency*, cancer beginning in the unchanged ovarian tissue is rare, but carcinomatous degeneration as a secondary complication of a previous pathological but benign condition of the ovary is frequent.

The question arising is, If these benign growths in the

ovary are allowed to remain, would they eventually undergo malignant degeneration ?

The *age* at which we find most cases occurring corresponds to that of cancer in other pelvic organs—that is, near or after the menopause.

Among my cases, however, one patient was 24 years of age, two were 25, and one was 29. The *solid* forms of the tumours seem to occur in younger patients than the *cystic*. *Previous child-bearing* has no influence. In seven of the cases the patients were unmarried and nulliparous. In the others on an average pregnancy had not taken place during the ten years previous to operation.

The *family history* is negative as regards cancer, with the exception of one case where the mother of the patient died of cancer of the breast.

Influence on menstruation.—In most of the cases where the menopause had not yet occurred the presence of the growth had caused amenorrhœa for several months before the operation. In *one* case there was metrorrhagia and in *another* the periods were regular. Previous dysmenorrhœa was not a marked symptom in any of the cases.

The *duration of the growth* is with difficulty determined upon owing to the patient having so few symptoms in the early stages of the disease. The growth may have been present in the benign form for some time, the patient being unaware of its existence, and her attention is directed to the pelvic condition only when some of the constitutional symptoms of malignancy have supervened, or when the size of the abdominal swelling impedes the functions of the respiratory and circulatory systems.

One patient with a large, solid tumour had only been aware of its existence for two weeks. In most of the cases the symptoms had been present from about six months to a year.

Symptoms.—*Swelling* of the abdomen is the chief symptom complained of; as it increases it causes œdema, dyspnœa, etc. *Pain* is not a marked feature except in the later stages where there is implication of other organs.

Loss of flesh and emaciation are observed only in the later stages. *Sickness and vomiting* may be complained of, but these are also found in the benign growths. These tumours are generally *mobile*; sometimes, however, if they are of large size they are entirely extra-pelvic in situation.

The *diagnosis* is difficult from the benign ovarian growths, unless general symptoms of malignant disease be present. In two of the cases the question of pregnancy was raised. In one, multiple fibroids of the uterus was diagnosed. In two, the patients appeared in such good health that the possibility of cancer was excluded. Six were diagnosed as ovarian cystoma. Malignant disease was only diagnosed in *four* cases out of the fifteen. *Ascitic fluid* was present in every case in varying degrees of quantity. The presence of blood in the fluid was not always observed, and does not seem to be so potent a factor in the diagnosis as is generally supposed. Its presence probably depends upon the degree of advancement and character of the growth.

The *pedicle* resembles that of the benign growths. In advanced cases it may be infiltrated by the cancer-tissue. This condition was present in two cases.

Both ovaries, as a rule, are affected, one being larger than the other, and showing a more advanced type of the disease, and sometimes bearing different microscopic characters.

The *Fallopian tubes* are rarely affected in the early stages, but in the later they are usually involved.

The presence of *metastatic growths* depends upon the degree of advancement of the disease, and in the ovary on the integrity of the tumour capsule. In *three* cases deposits were found in the bladder and uterine walls. In *one* a mass of cystic-like tissue was found lying behind the peritoneum on the vertebral column. Adhesions with the omentum are common. It is in these cases with metastatic growths that the question of the origin occurring primarily in the ovary arises.

With the exception of one case no *post-mortem* examination was permitted, and in that there was no evidence of the disease having had its origin elsewhere.

One patient had had a nodule removed from the breast two years before. The ovarian tumours were small and cystic, and there was no suspicion of malignancy at the operation. Subsequent microscopical examination revealed the presence of cancer-tissue. This was a case where a more careful examination might have been made of the other abdominal organs at the time of operation had the condition been known to be other than a benign growth of the ovary. In none of the cases did the history and symptoms point to any condition other than the pelvic.

If ovarian cancer occurs more commonly as a *secondary* or metastatic growth, why should we have so frequently present a benign tumour of the ovary?

The malignant adeno-cystoma is more frequent than the solid malignant tumour. Is it merely a coincidence that a cystic condition of the ovary is so frequently present with malignant disease of the intestines or other abdominal organs? Is it not more probable that this benign growth is a forerunner of, or is, on account of its large epithelial surface, more liable to take on malignant degenerative changes?

The *spread of the growth* to other organs is by means of the *lymphatic* system. In one specimen the tube appeared normal, but in the mesosalpinx small areas of cancerous tissue were found in the region of the lymphatics on microscopic examination. This subject has been dwelt upon by Dr. Cuthbert Lockyer in this Society on a former occasion. Many must have observed those cases where the patient appears in fairly good health at the time of operation; after operation she may recover from its immediate effects, but in a short time the abdomen becomes distended, emaciation is observed and the patient shows signs of the rapid progress of the disease.

It thus appears that the disease has been of slow growth and localised; with the operation it has become

disseminated by the lymph-channels to the other abdominal organs, the uterus being the direct channel for its distribution. It is, therefore, necessary when dealing with a case of bilateral malignant disease of the ovary to consider the question of a radical removal of the whole generative organs.

The danger of paracentesis of the cystic growths is obvious.

The *mortality* among these cases is high. *Five* of the patients died within three weeks of operation either from its immediate effects or from general weakness. In one the ascitic fluid returned before the patient left the hospital. One returned five months later with great distension of the abdomen. One died from general debility two weeks after going home. Two of the patients were reported as well, the operation having been performed within the past year. In one case the tumour could not be completely removed owing to intestinal adhesions. The after-histories of the remaining four could not be obtained.

Pathological investigations.—These tumours of the ovary have been classified as *cystic* and *solid,* according to their naked-eye appearances.

The majority of the growths are *cystic,* just as is the case among the benign tumours. In appearance they resemble the benign growths, some small with thin walls, others filling the greater part of the abdominal cavity.

They are irregular in form and outline, dull in appearance, and nodular. In many the presence of cancer cannot be made out to the naked eye. They contain areas of solid tissue, often broken down and necrotic. The capsule may be eroded in the advanced cases and in the rapidly growing. In the early stages the capsule is firm and fibrous. If erosion be present there is frequently proliferation of the contents on to the surface of the tumour.

The *contents* vary ; masses of broken-down tissue, fibrin, and blood-clot are found in the fluid. Some are entirely

filled with fluid blood; others have thick, gelatinous contents as in the benign cysts.

In the *solid* forms the shape resembles that of the normal ovary; many contain cysts of varying size. These tumours sometimes attain a great size: one single ovary weighed 6½ lb. and another 3 lb. The surface is smooth or nodular with marked irregularities and furrows. There are areas of necrosis and hæmorrhagic infiltration, sometimes raised from the surface.

The classification of these tumours is difficult owing to many containing several kinds of tumour-tissue.

The cystic forms are classified into adeno-carcinoma, glandulare and papillare, by Pfannenstiel, Orthmann, Gebhard, and Winter. Heinrichs gives an additional class, adeno-carcinoma alveolare, and he gives the name of "cyst-adenoma glandulare carcinomatodes" instead of that of Gebhard.

In the solid forms we have carcinomatous degeneration of (1) the adeno-fibromata, (2) cysto-fibromata.

In all my specimens there was evidence of previous benign changes having been present, so that we have a further subdivision of the cystic forms into pseudo-mucinous and serous. No examples of pure scirrhous cancer were found.

The sections for microscopic examination were taken parallel with the surface of the ovary and also at right angles to it, so as to compare the various planes. The cancerous tissue is most abundant in the furrows on the surface of the solid tumours and in the thickened portions of the walls of the cysts.

On going over the literature on the subject of ovarian cystic tumours we find that the generally accepted view as to their origin is—first, that they are due to an arrest of the normal retrograde metamorphosis of the Graafian follicles that have never become corpora lutea of menstruation or of pregnancy, secondly, that they are derived from inclusions of the epithelium on the surface of the ovary.

In many of these cancerous tumours the change from the benign into the malignant forms can be seen under the microscope. If, therefore, we derive them from the benign forms they have a remote common origin.

The *capsule* of the tumour consists of dense fibrous tissue—the thickened tunica albuginea; small cystic spaces are found underneath this.

The superficial epithelium is rarely present in these tumours, the surface being covered with flattened-out cells resembling those of the endothelium. They may be transformed surface epithelium or connective-tissue cells.

In the *solid* tumours and in the solid portions of the cystic forms we see the following conditions: In some portions the tissue resembles an alveolar cancer. Scattered through the connective tissue are groups of epithelial cells without any definite plan or arrangement. In some places large patches with radiating processes are found; at others the mass is seen to consist of only a few cells. The nuclei are deeply stained, rounded or oval in shape, and of definite outline. They are sometimes arranged in circles round a central area of almost structureless tissue which may be cell-secretion resembling the giant cell in tubercle. The connective tissue shows colloid degeneration its nuclei being swollen and staining faintly.

In some of the solid tumours several cells become swollen from degenerative changes, fuse together, and form irregular masses with vacuoles. The connective-tissue cells in their immediate vicinity are enlarged and become pushed aside, forming a follicle-like ring of spindle cells.

This central disc of protoplasm in the follicles has given rise to the theory of follicles with their contained ova as held by several German authorities. The cells are degenerated epithelial cells. They are products of a retrogressive metamorphosis. In some places these cells lie singly as well as in groups.

In all the solid tumours examined this follicle-like arrangement was found, although not well defined in some,

only a part of the circle being seen, the remaining portion being lost in the degenerative changes.

In one tumour which I examined lately I found a corpus luteum; this was the only one found. The lutein tissue was not affected by the malignant growth. The patient in this case had menstruated until admission into hospital. It therefore appears that the ova are the first cells to disappear in the degeneration of these malignant tumours.

The point of interest in the examination of these specimens lies in the origin of the epithelial cell masses. The Graafian follicles and surface epithelium are the main sources of origin.

In the fœtal ovary I have found that the follicle-cells or cells of the membrana granulosa are derived from the connective-tissue cells, the germ-cells or ova causing these cells to take on a radical arrangement and to resemble epithelial cells. If the walls of the benign cysts of the ovary are derived from these follicle-cells—and we have shown cancer-cell changes in these cysts—then we have a mesoblastic origin for cancer as well as epiblastic; also, if these connective-tissue cells under the influence of the germ-cell take on an epithelial character, why cannot these cells take on a similar character when exposed to the influence of cells which have imitated the characters of the germ-cells—that is, the cells of the pseudo-germinal or surface epithelium? This may account for the varieties in the so-called alveolar form of cancer of the ovary.

Dr. Eden said that he should like to express his admiration for the fine piece of microscopic work which Miss McIlroy had brought to the Society that evening; he thought that her paper would be a memorable one in the development of our knowledge of carcinoma of the ovary. In two points, at any rate, the author appeared to have made an important contribution to our knowledge. One point was that she had traced the invasion of the ovarian stroma by cells derived from malignant changes in the germ epithelium; the second was that she believed that she had traced the transition stages by which the epithelial cells of a benign cyst became transformed into the malignant cells of

an adeno-carcinoma. This observation appeared to provide a scientific basis for the expression "malignant degeneration," which we were in the habit of using so freely in connection with a benign tumour.

Dr. Russell Andrews congratulated Miss McIlroy on the excellent demonstration that she had given, and asked her whether her researches had led her to agree with the teaching of some German writers that many adenomatous or pseudo-mucinous ovarian cysts which appeared to be perfectly innocent to the naked eye proved to be malignant on microscopical examination. If this teaching were accepted it became our duty to remove all adenomatous ovarian tumours whole, without diminishing their size by tapping, however large they may be.

Dr. Fairbairn said there was one point in the paper which he had not been able to follow, and that was the statement that the carcinomatous tumours in all cases followed on a previously benign growth. The proof of this was far from complete, and, as he understood, was based on observations of histological changes in different parts of the tumour—in other words, on tracing the transition of a regular goblet-celled epithelium into an irregular epithelial growth of carcinomatous cells. The difficulty of arguing from the appearance of the epithelium in some of these large tumours, where very extensive necrotic and retrograde change was always present, was manifest; and also the exact meaning of slight pathological changes in surviving portions of ovarian tissue was always a matter of doubt, as it was impossible to say whether the changes in the follicular and surface epithelium were the results or the consequences of the development of the carcinomatous tumour. The reader of the paper had not explained what she meant by "benign" growth. Did she include in this simple follicular change, which is of so frequent an occurrence as to be of little moment, or did she mean that these tumours were invariably preceded by a new growth of a simple nature, which secondarily took on malignant characteristics? Dr. Fairbairn's experience coincided with Dr. McIlroy's in regard to the greater frequency of the solid growths in young women and of the cystic growths in the older subjects. There was one form which had not been described, and that was the small papillary growth invading the ovary and giving rise to early and extensive metastases in the abdomen and to large quantities of free fluid. In such cases the tumour was small and entirely obscured by the ascites, which was usually the cause of the patient's seeking medical advice. The varying degree of malignancy of these growths was very little understood, but he agreed that the capsule of tunica albuginea played a very important part in preventing dissemination. He had called attention to its importance in this respect when describing a specimen at this Society, as well as to its resistant properties in

other ovarian growths ('Transactions,' vol. xliii, pp. 210 and 211, and vol. xliv, p. 206).

Dr. Willamson stated that he had listened with very great interest to the paper just read. During the last three years he had devoted a considerable amount of time to the study of the development of ovarian tumours, and from his own observations he could confirm two of the conclusions the author had arrived at. The first of these was with regard to the development of the cells of the membrana granulosa; he was quite convinced that these had their origin from cells of the connective-tissue stroma of the ovary and not from the epithelium of Pflüger's tubes. The second point was the recognition of the important part played by later downgrowths of the germinal epithelium in the genesis of ovarian tumours. The material he had selected for his work were ovaries normal as far as their naked-eye characters were concerned, and removed from patients in whom a large cyst-adenoma had developed in the organ of the opposite side. In many of these cases he had been able to trace the commencement of cystic growths, and he believed they arose neither from Graafian follicles nor from Wolffian remains, but from later downgrowths of the germinal epithelium. Dr. Griffith and himself had published drawings of three of his sections in the second edition of Allbutt and Playfair's 'System of Gynæcology,' illustrating what they believed to be three different stages in the development of an adeno-cystoma. He was greatly interested to find that Miss McIlroy accepted the same origin for the ovarian carcinomata.

Dr. May Thorne wished to add her best thanks to Miss McIlroy for her interesting paper. She felt unable to criticise it from the pathological point of view at so short notice as so many new points were brought out, but from the clinical aspect she could not quite agree with Miss McIlroy that pain was such a very rare symptom in the earliest stage of carcinoma of the ovary, and quoted a case of her own in which acute pain was the first thing which attracted the patient's attention at a time when the affected ovary was only slightly enlarged by carcinomatous growth.

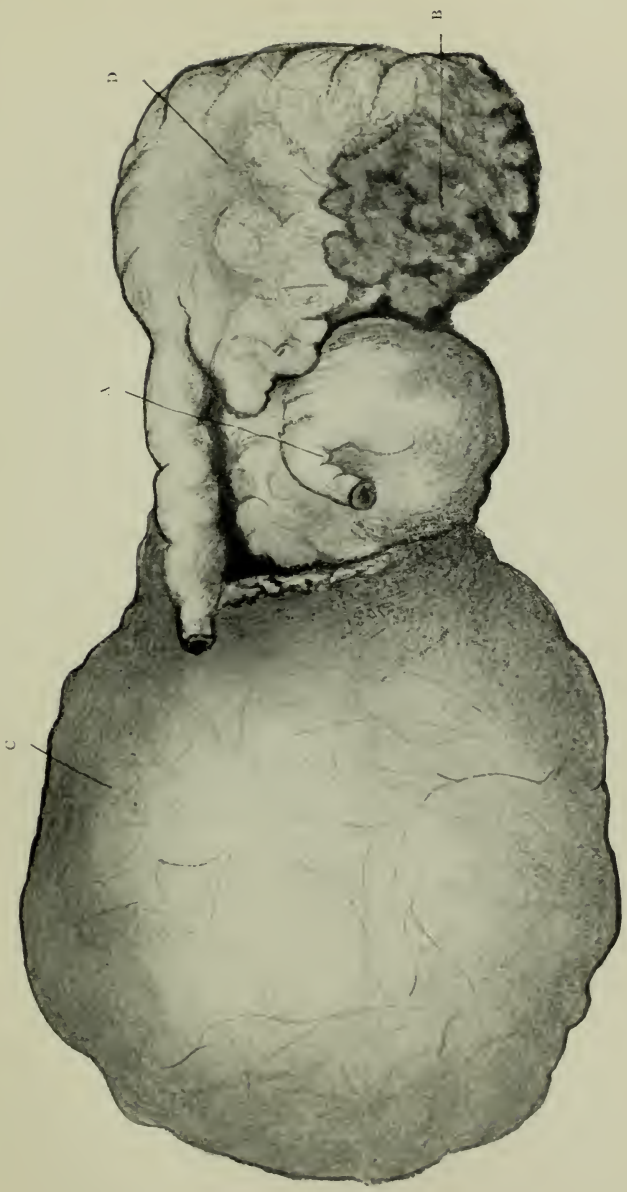
Miss McIlroy, in replying, thanked the members for their kind reception of the demonstration. Among her sections she had found that the pseudo-germinal epithelium had taken on the character of cancer-cells, and that these cells on proliferation had burrowed down into the stroma, thus forming the epithelial cell masses. The naked-eye appearances of the cystic growths were of little aid in the majority of specimens in the diagnosis of cancer. Many specimens appeared benign, and the malignant character of the growth was only discovered on microscopical examination. In the cystic forms pseudo-mucinous epithelium of a benign character was present with cancer-tissue in other

portions. In the solid tumours so much fibrous tissue was present as to give rise to the question whether these growths had started as a simple fibroid condition with subsequent malignant degeneration, or whether the fibroid formation was a secondary deposit around the epithelial cell masses.

DESCRIPTION OF PLATE XIX,

Illustrating Miss McIlroy's paper on Primary Cancer of the Ovary.

A. Appendix adherent to solid mass in broad ligament.
B. Papillomatous portion adherent to bowel.
C. Cystic ovary.
D. Fallopian tube: outer end forming a tumour.



Illustrating Miss McIlroy's paper on Primary Cancer of the Ovary.

Adlard & Son, Impr.

DESCRIPTION OF PLATE XX,

Illustrating Miss McIlroy's paper on Primary Cancer of the Ovary.

Fig. 1.—Showing the epithelium lining the cystic spaces, which has become malignant. Two karyokinetic figures are seen.

Fig. 2.—Fibrous capsule of tumour. Masses of epithelial cells surrounding lymph spaces. Tissue towards centre almost structureless.

Fig. 1.

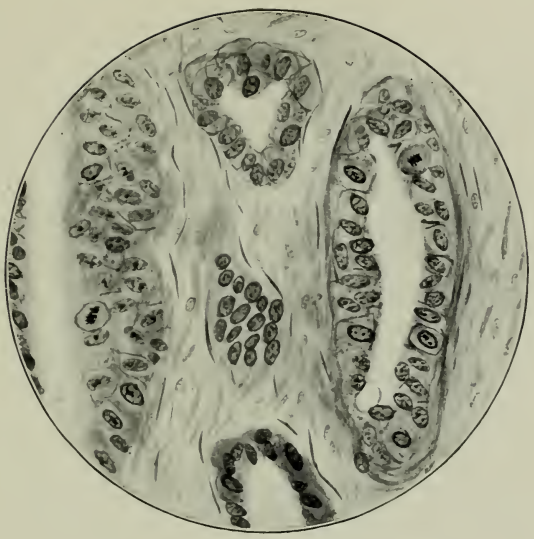


Fig. 2.

Illustrating Miss McIlroy's paper on Primary Cancer of the Ovary.

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DESCRIPTION OF PLATE XXI,

Illustrating Miss McIlroy's paper on Primary Cancer of the Ovary.

Fig. 1.—Ring of epithelial cells around central cells lying in hyaline substance. Large cells with granular protoplasm. Vacuoles.

Fig. 2.—Follicle-like mass with daughter outgrowth, D. P = Disc of protoplasm. F = Free cells like pseudo-mucinous cells.

Fig. 1.

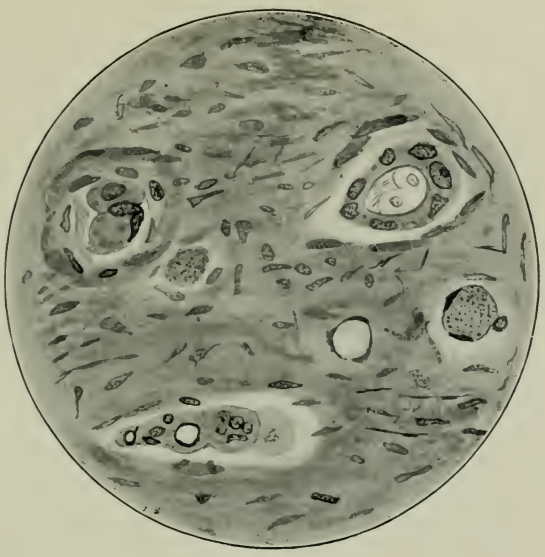

Fig. 2.

Illustrating Miss McIlroy's paper on Primary Cancer of the Ovary.

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DESCRIPTION OF PLATE XXII,

Illustrating Miss McIlroy's paper on Primary Cancer of the Ovary.

Fig. 1.—Strings of surface epithelium among ovarian stroma.

Fig.2.—Erosion of capsule of tumour, epithelium near surface.

Fig. 1.

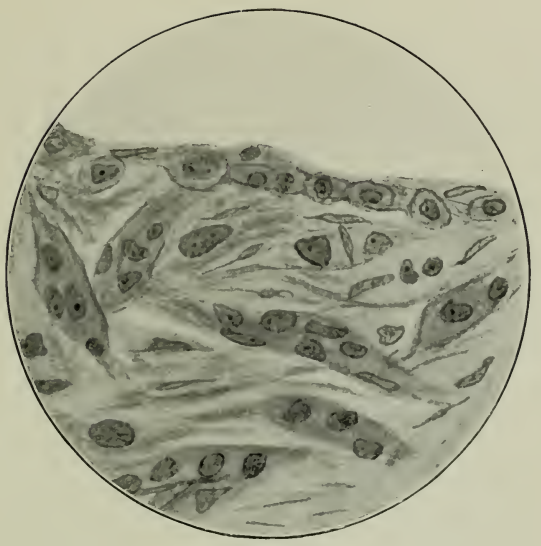
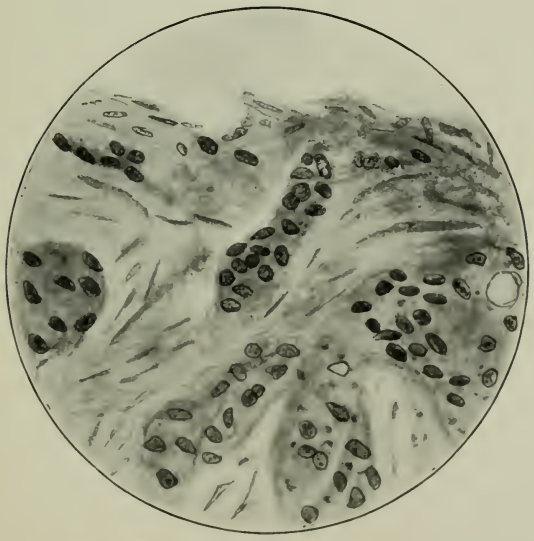


Fig. 2.



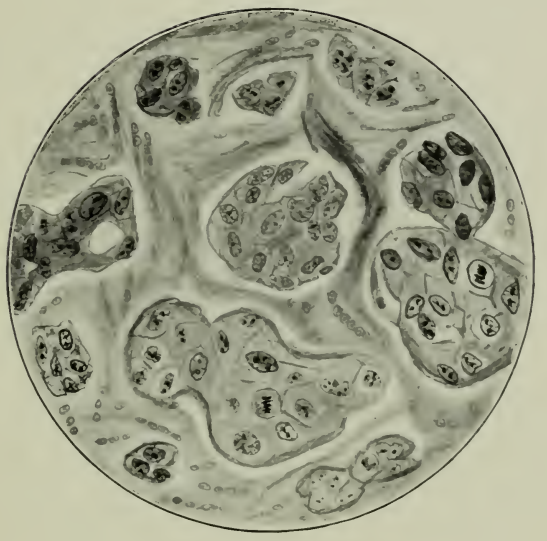
Illustrating Miss McIlroy's paper on Primary Cancer of the Ovary.

Adlard & Son, Imp.

DESCRIPTION OF PLATE XXIII,

Illustrating Miss McIlroy's paper on Primary Cancer of the Ovary.

Squamous cell masses in the connective tissue.



Illustrating Miss McIlroy's paper on Primary Cancer of the Ovary.

Adlard & Son, Imp.

OCTOBER 3RD, 1906.

AMAND ROUTH, M.D., Vice-president, in the Chair.

Present—37 Fellows and 5 visitors.

Books were presented by the Presbyterian Hospital Staff of New York, the Société de Médecine de Rouen, Professor Pozzi, and Drs. Eden, Swaffield, and Nepean Longridge.

W. Blair Bell, M.D., B.S. (Liverpool), and T. Sprot Allan, L.R.C.P. (Newcastle-on-Tyne), were declared admitted Fellows of the Society.

The following gentlemen were elected Fellows of the Society : Harold Clifford, M.B.Lond., F.R.C.S.Edin. (Manchester); Ernest Eric Young, M.B., B.S.Lond. (Stoke-on-Trent); William Gavin Hamilton, M.R.C.S., L.R.C.P.Lond., Capt. I.M.S.

The following gentlemen were proposed for election : H. N. Anklesaria, L.R.C.P., F.R.C.S.Edin.; Charles J. Battle, M.R.C.S., L.R.C.P. (Natal); Douglas Drew, B.S., F.R.C.S.Eng.; Albert Richard Henchley, M.D. (Brux.), L.R.C.P., L.R.C.S.Edin. (Canterbury); George Hope, D.P.H., L.R.C.P., M.R.C.S.Lond.; William Fletcher Shaw, M.D.Vict. (Manchester) ; Frederick Ernest Withers, M.R.C.S., L.R.C.P. (Horncastle).

A CASE OF INTRA-LIGAMENTOUS, FIBROCYSTIC TUMOUR OF THE UTERUS, WEIGHING ABOUT THIRTY POUNDS, REMOVED BY ENUCLEATION AND SUB-TOTAL HYSTERECTOMY.

(With Plate XXIV.)

By T. W. Eden, M.D., and F. Lionel Provis, F.R.C.S.

The patient, J. S—, was a single woman, aged 55, who came to the out-patient department of the Chelsea Hospital for Women in January, 1905, complaining of swelling of the abdomen, shortness of breath, and a mucoid discharge from the rectum. She had usually worked at a laundry, but latterly had been in service as a cook. She had had a child many years previously, and the menopause occurred at the age of 48. For nine years she had suffered from varicose veins and for over eleven months from an ulcer on the left leg. She was troubled with hæmorrhoids and the bowels were constipated. With these exceptions her general health had been good up to a year previous to her admission to the hospital. On inquiry it was found that the abdominal swelling had been noticed since 1898; it varied in degree from time to time, but had increased rapidly of late. She made no complaint of pain; she had latterly experienced some difficulty in commencing the act of micturition, but had never been unable to pass water. She suffered also from nausea and sickness in the morning, and admitted that she had been in the habit of taking alcohol in excess. There was no vaginal discharge. She stated that during her menstrual life the periods were regular, of the twenty-eight days type, lasting seven days, and that the amount of loss had always been free, with clots.

On February 13th, 1905, a day or two after her admission to the hospital, the following note of her condition was made: "The abdomen is enormously distended, the umbilical girth being 42½ in. and the distance from

xiphoid to symphysis pubis being 21½ in. On percussion resonance is found in the epigastric region; all other parts are dull, except the left flank, where a colon note can be found on deep percussion. A fluid thrill can be easily obtained in all directions over the front of the abdomen. On palpation the top of the tumour is reached at a point two thirds of the distance from the umbilicus to the xiphoid cartilage. The general anterior surface of the tumour is smooth, with few irregularities, and of elastic consistence. On vaginal examination the cervix is found displaced upwards and forwards behind the symphysis pubis; in the pouch of Douglas and left fornix can be felt a firm swelling, rounded in outline, at about the level of the middle sacral vertebra, apparently continuous with the abdominal tumour. The position of the uterus cannot be made out; the sound was not passed."

On these findings a diagnosis of a large multilocular ovarian cyst, with a semi-solid portion in the pouch of Douglas, was made. The general condition of the patient was fairly good. The heart and lungs appeared to be healthy; the urine contained no albumen or sugar; there was no œdema of the lower extremities, but on the internal surface of the left leg was a large and fairly deep varicose ulcer as large as the palm of the hand. Her temperature was normal. She was admitted on February 10th, 1905, and the operation was performed on February 14th.

On opening the peritoneal cavity a few ounces of clear, yellowish fluid escaped, and the tumour came into view. On passing the hand around it, it was found to be free on the right side, where the peritoneal relations were found unaltered; but on the left side the parietal peritoneum was reflected on to the tumour at a level corresponding to the summit of the iliac crest. As it obviously contained a large quantity of fluid, the tumour was then tapped and 6 pints 14 oz. of dark, chocolate-coloured fluid was collected, but a considerable quantity escaped and could not be measured. This considerably reduced the bulk of the tumour and allowed it to be delivered through the incision.

It was now seen that a piece of large intestine, about 6 or 8 in. in length, ran along the upper border and left side of the tumour, passing into the rectum below, the peritoneum being reflected directly from the bowel on to the tumour. It was therefore clear that the tumour occupied the left broad ligament, and had extensively raised the peritoneum from the lateral pelvic wall and the abdominal parietes. The pouch of Douglas was displaced to the right side of the middle line, but appeared of normal depth. The right appendages and right uterine border were free. Enucleation was begun by reflecting the colon along with a wide strip of peritoneum, upwards from the summit of the tumour and then outwards from its left border. On approaching the anterior parietes a mass of very large veins was encountered; they were divided between ligatures and the enucleation continued without much difficulty. The sub-peritoneal mass was raised from its bed; the right ovarian and uterine vessels were next secured in the usual manner and divided. The bladder was much displaced upwards, the utero-vesical peritoneal reflection being found 3 to 4 in. above the pubes; the peritoneum over the front of the tumour was then incised and the bladder pushed well down. The left tube was now found upon the anterior aspect of the tumour, and the left ovarian vessels were easily secured. It was, however, impossible to find the left uterine artery, and the uterus was accordingly amputated at the level of the internal os from right to left, the left uterine artery being secured as it came into view to the left of the divided cervix.

The extensive bed of the tumour was now examined; it extended far up the left side of the posterior abdominal wall, and involved the whole of the left half of the pelvic cavity, and encroached considerably to the right side of the mid-line.

There was very little oozing, and the ureter, though looked for, could not be seen. Sufficient peritoneum had been left to allow of the whole of the tumour bed being closed, and this was now done with a fine, continuous

silk suture, an aperture being left in the lower part through which a large rubber drainage-tube was passed on to the floor of the cavity; the cervical stump was next covered over in the usual manner and the abdominal wound closed in three layers. The patient suffered severely from shock, and a rectal enema of saline and brandy was administered before she left the operating table.

For the first week the patient's progress was uninterrupted. The tube was removed in forty-eight hours; a good deal of blood-stained fluid escaped during the first day, but very little on the second. On the eighth day the stitches were removed, the wound having healed entirely with the exception of a small sinus representing the track of the drainage-tube; this closed three days later. Up to the eighth day the temperature had not reached 100° F., and the general condition of the patient was in every way excellent. On the ninth day she complained of pain in the upper part of the chest on the left side; the temperature was raised to 100·4° F., the pulse to 118, respirations to 33. The resident medical officer reported that pericardial friction could be heard over the apex of the heart. The temperature fell to subnormal in twenty-four hours, and in two days the rub disappeared, and the patient appeared to be quite well. The ulcer on the left leg had been treated, and had become somewhat smaller and cleaner. On March 12th (twenty-sixth day) she went to the Convalescent Home at St. Leonards. The day after she arrived she became very ill, with severe vomiting, and her temperature rose to 103° F. and the skin became yellow in colour. Dr. Barker, to whom we are indebted for these particulars, does not think she was definitely jaundiced, and the sickness ceased in forty-eight hours. She remained confined to bed, however, being very weak and running a morning temperature of 102° F., which fell to nearly normal in the evening. For over a week she remained in this condition; then she had several shivering fits, in one of which her temperature reached 107° F.; a loud systolic murmur now became

audible at the apex, although up to this time the heart-sounds were clear. Dr. Barker says that he could find no evidence on examination of any pelvic trouble. On March 19th she suddenly became unconscious and developed left hemiplegia; on the following day she died. No autopsy could be made.

Description of the tumour.—The whole tumour is roughly of oval shape, and measured when removed 31 in. in transverse and 29 in. in vertical diameter. This was, of course, after the bulk of the tumour had been reduced by tapping. The weight of it, together with the fluid removed, was 30 lb. It consists of two lobes—a left anterior lobe much larger than the other, over the top of which runs the elongated left Fallopian tube, and a right posterior lobe springing from the right border of the main tumour. Between the two lobes lies the uterus with the right appendages in position. The left ovary was not found. The uterus, which measures $2\frac{1}{2}$ in. in the fresh state, contains two or three subperitoneal fibroids. The tumour is attached to the left anterior aspect of the uterus at about the level of the internal os by a pedicle about 1 in. thick. The right border of the uterus is free. The cut surface shows a large cystic cavity beneath the capsule anteriorly and a number of smaller cavities in different parts, mostly subcapsular in position. The general appearance of the solid portion is that of a degenerating fibro-myoma, but in many parts there is no naked-eye evidence of degeneration. The whole growth is encapsuled.

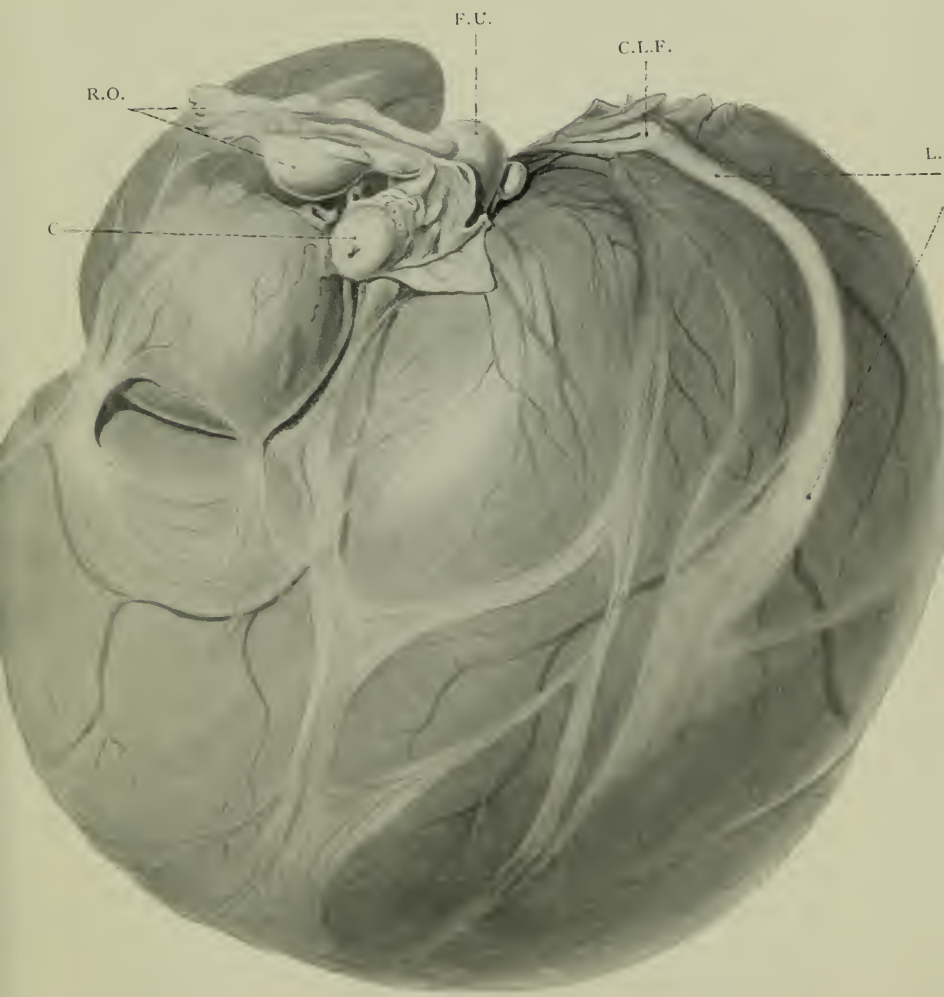
Remarks.—We regard this specimen as one of uterine fibro-myoma developing within the left broad ligament. The general anatomical relations closely correspond with those characteristic of large parovarian cyst of the broad ligament, namely (1) obliteration of the meso-salpinx; (2) elongation of the Fallopian tube, which lies in close contact with the tumour; (3) lateral displacement of the uterus; (4) elevation of the line of reflection of the peritoneum upon the pelvic viscera.

As the tumour is attached by a distinct though rela-

DESCRIPTION OF PLATE XXIV,

Illustrating Dr. Eden's and Mr. Provis's case of Intra-ligamentous, Fibrocystic Tumour of the Uterus.

The slightly enlarged uterus lies between the two lobes of the tumour; the right tube, ovary, and mesosalpinx are unaltered and retain their normal relation to the uterus; the left tube was divided near its attachment to the uterus; it is elongated and stretched over the large lobe of the tumour. F.U. Fundus uteri. R.O. Right ovary and tube. C. Cervix C.L.F. Cut end of left Fallopian tube. L.F. Left Fallopian tube.



Illustrating Dr. Eden's and Mr. Provis's Case of Intra-ligamentous Fibrocystic Tumour of the Uterus.

Addard & Son, Impr.

tively small pedicle to the uterus we regard it as uterine in origin, although we see no reason to question the generally accepted view that similar growths may arise in the broad ligament independently of the uterus, from the non-striped muscle and fibrous tissue which the ligament contains.

Extensive cystic degeneration has occurred in the tumour, and to this factor we attribute the rapid increase in size noticed by the patient for a short period before the operation. The growth itself had probably existed for several years, either growing very slowly or remaining quiescent.

The left ovary was not seen during the operation, nor could it be identified upon the tumour in the recent state. This, we think, is explained by the great expansion of the broad ligament, just as in large parovarian cysts identification of the ovary is often difficult; it becomes greatly stretched and thinned, and ultimately merges with the capsule of the tumour. This had probably occurred in our own case also.

On microscopic examination the tumour is seen to be a degenerating fibro-myoma. The walls of the cystic cavities are devoid of epithelium, and present a ragged surface upon which blood-vessels of a considerable size are here and there laid open. Considerable hæmorrhage must have occurred into the cavities, and this is consistent with the observed nature of their contents. Even in parts which appear solid to the naked eye there is extensive microscopic evidence of degeneration and the formation of minute cavities. The growth is extraordinarily well supplied with blood-vessels, and sections of large coiling arteries are to be seen penetrating the tumour from its surface. Most of the vessels seen in section show well-marked degeneration, being thickened, nearly homogeneous in structure, and almost devoid of nuclei. Numerous areas of interstitial hæmorrhage were also observed.

In a communication made to this Society in 1899

Mr. Alban Doran recorded a case of his own in which a fibro-myoma of the broad ligament weighing 44 lb. was successfully removed by enucleation and subtotal hysterectomy. He also collected from the literature of the subject thirty-nine other cases of broad ligament fibroma and fibro-myoma. In only two cases did the weight of the tumour exceed 30 lb., so that the case now recorded is one of the largest specimens of its kind.

It is to be noted in Mr. Doran's specimen (1) that the uterus was elevated so that the fundus lay at about the level of the umbilicus; (2) the meso-salpinx on each side was intact; (3) the tumour had no distinct union with the uterus; the cervix was elongated, being "several inches" long. [It would, we consider, be more accurate to describe such a growth as this as a retro-peritoneal, not as an intra-ligamentous, tumour, for obviously only the bases of the broad ligaments were occupied by it, the tumour having originated below and elevated the uterus in its growth, thus elongating the cervix by its upward traction.] In our own case the anatomical relations are quite different from Mr. Doran's case.

Considering the large size of the tumour, the operation presented very little difficulty. The capsule of the tumour was never opened; it was simply freed from its peritoneal investment, sufficient peritoneum being retained to allow of the bed of the tumour being closed. There was very little general oozing, the blood-supply of the growth being clearly derived almost exclusively from the uterine and ovarian arteries. With the exception of the large veins upon the front of the tumour the vascular arrangements differed but little from the normal. We attribute the uneventful nature of the convalescence from the operation to three factors: (1) the small amount of blood lost in operating; (2) the complete arrest of hæmorrhage by ligature; (3) the closure of the bed of the tumour by peritoneal suture.

The nature of the illness from which the patient died in the convalescent home nearly six weeks after the opera-

tion is in some respects obscure, but one point is clear, namely that the immediate cause of death was cerebral hæmorrhage or embolism. In the general features her illness is strongly suggestive of ulcerative endocarditis, namely the rigors and irregular fever, great prostration, and the development of loud cardiac murmurs. Pelvic examination during the illness revealed nothing abnormal, and it is difficult to connect her death directly with the operation. Possibly the varicose ulcer may have been the source of infection which resulted in ulcerative endocarditis.

Dr. DAUBER asked the author of the paper why he considered it necessary to employ drainage.

Dr. HERBERT SPENCER remarked that it was possible that the patient died from septic embolism as a result of the operation. He was generally opposed to drainage; but for *very large* broad ligament tumours where drainage was employed he thought it better to drain for ten days. He had known infection of the exudation from these large raw surfaces to occur when the drainage-tube was removed as early as forty-eight hours after the operation.

The Pozzi Medal.—Dr. Cullingworth exhibited to the meeting a medal which had been presented to Professor S. Pozzi (one of the Honorary Fellows of the Society) by a number of his friends, colleagues, and old pupils, on the occasion of his having been President of the 17th Surgical Congress held in Paris in 1904, and of his promotion to the grade of Commander of the Legion of Honour. The ceremony took place in Paris on July 8th, 1906, in the lecture theatre of the hospital Broca. At the same time, in accordance with a custom common in Germany but hitherto unknown in France, Professor Pozzi received, as a souvenir of his twenty years of clinical teaching, a *Livre d'or* (German *Festschrift*) containing twenty-four original contributions by his pupils, colleagues, and friends.

The medal, artistically designed by Mons. Chaplain, bears on one side a profile bust of Professor Pozzi, and on the other an allegorical group, representing surgical gynæcology, in the form of a beautiful female, intervening to cheat Death of his otherwise helpless victim.

A CASE OF TUBAL PREGNANCY WITH ACUTE SALPINGITIS.

By Dr. Thomas Watts Eden.

The patient was a married woman, aged 28, who had previously had three children, the youngest of which was born on May 20th, 1905. After the birth of her last child she was in good health up to the month of December, when she was still suckling the child, and there had been no return of menstruation. A little before Christmas, 1905, she began to suffer from severe abdominal pain, and on January 20th, 1906, hæmorrhage set in, which she naturally regarded as a monthly period. After this had continued for fourteen days, she decided to wean her baby, but the hæmorrhage and pain continued unchecked. She could not recollect that anything of the nature of a membrane had been passed. On February 22nd a medical practitioner whom she had consulted, and who had diagnosed a displacement, attempted to replace the uterus, using an instrument for the purpose. This procedure caused her great pain and free bleeding which lasted for twenty-four hours. On February 24th she again returned to him, and again an instrument was used to replace the uterus. The result of this was that the patient became extremely ill with acute pain and faintness, and was unable to leave the examination couch for several hours. On reaching home she went to bed and sent for another doctor, who had attended her at the confinement, and on

the following morning I saw her in consultation with this gentleman.

I found the patient a delicate-looking, anæmic woman, with pinched features and an anxious expression. Her pulse rate was 110 and her temperature (10 a.m.) was normal; the previous evening the temperature had been 102° F. There was a moderate degree of distension of the lower abdomen, but tenderness and rigidity were so great that deep palpation was impracticable. There was no dulness on percussion. On vaginal examination I found the cervix distinctly softened and displaced in an upward and forward direction behind the pubes. In the posterior fornix a tense globular swelling could be felt, the size and relations of which could not be determined owing to the great pain caused by the examination. The swelling could, however, be felt to extend upwards above the level of the pelvic brim. It was obviously impossible, at this moment, to make a precise diagnosis; we accordingly decided to keep the patient under observation for a few days to watch the progress of the local conditions.

I saw her again on March 3rd. In the interval she had been confined to bed, and her diet restricted to fluid nourishment; occasional doses of morphia had been given on account of pain, and the bowels had been difficult to move except by enemata. I thought she was distinctly worse than on the first occasion; the tongue was dry. During the previous night a severe attack of vomiting had occurred. The pulse rate was 100 and the temperature 102° F. The abdomen, although more distended, was softer and less tender, so that a detailed physical examination was practicable. In the lower abdomen an extensive swelling could be felt on deep palpation; it was most readily felt immediately above the right Poupart's ligament, where its consistence was very firm; from this spot it could be less distinctly traced upwards to the level of the umbilicus, and well across the middle line into the left iliac region. Over the firm area just referred to the percussion note was dull, over the remainder of the swelling

it was sub-resonant. On bimanual examination the position of the cervix was found as already described. The pelvic cavity appeared to be entirely occupied by a large swelling, which could be felt in the posterior and in both lateral fornices, and which extended upwards to the level of the umbilicus. Its consistence generally was doughy, but in the right fornix it was very hard. The body of the uterus was found lying in front of the swelling and displaced to the left side; it appeared to be only slightly enlarged. Upon these findings a diagnosis was made of extra-uterine gestation with pelvic hæmatocele; the patient was removed to a nursing home and the operation performed on the following afternoon.

The operation was in some respects a surprise. On opening the abdomen omentum and coils of small intestine were found closely adherent to a large pelvic swelling, the nature of which was only gradually cleared up as the operation proceeded. There was very little free blood in the peritoneal cavity, and the conditions resembled those associated with pelvic suppuration rather than pelvic hæmatocele. My diagnosis appeared, at this moment, to have been incorrect. The adherent bowel and omentum having been detached, the pelvic swelling was gradually isolated and its pedicle found to consist of the right broad ligament, the tissues of which were greatly thickened. The pedicle was clamped, the tumour then cut away, and three interlacing ligatures of strong silk were employed to secure the pedicle. The adhesions were all recent and very vascular; there was consequently considerable oozing from the bed of the tumour, but this was almost completely arrested by packing it with dry gauze pads. The left appendages were now examined and found to be unaffected except for a few insignificant adhesions. Owing to the generally roughened and inflamed condition of the pelvic peritoneum, it was thought advisable to drain, and accordingly a large rubber tube, containing a wick of sterile gauze, was introduced through the lower angle of the abdominal wound. The patient's condition at the

close of the operation gave us some anxiety, or I should have opened the posterior fornix and drained into the vagina; but a few minutes were saved by adopting the abdominal route.

She made an uninterrupted recovery from the operation; the temperature never reached 100° F.; there was no sickness; the tube was removed in forty-eight hours, and bowels moved naturally on the second day. In a little over three weeks she was able to leave the nursing home.

Description of the parts removed.—On the first inspection the parts removed appeared to consist of the acutely inflamed and dilated Fallopian tube with its companion ovary. The specimen was hardened in Kaiserling solution and then cut open by a longitudinal incision. The lumen of the tube was tortuous, and the incision had divided it in three places. The outer (ampullary) end was dilated and its wall not much thicker than that of the normal tube; this part contained a quantity of fluid blood and an oval piece of solid clot about the size of a pigeon's egg, which was preserved for microscopic examination. In the remainder of its extent the tube showed well-marked thickening of its walls, the average thickness being three quarters of an inch; the lumen was not dilated, but contained dark clotted blood. The outer surface of the tube was covered with tags of torn adhesions, and the ovary was found upon the posterior surface close to the uterine end; it was flattened and imbedded in adhesions but not much enlarged.

On microscopic examination of the clot from the dilated ampullary end, chorionic villi were found, proving the clot to be a tubal mole and the case one of tubal pregnancy. Sections of the thickened wall of the tube showed very well marked œdema and round-celled infiltration. The tube was clearly affected by an acute inflammatory process (acute interstitial salpingitis). The greater part of the mucous membrane had been shed, and was replaced by an irregular layer of granulation-tissue. There was no sign of either tubal rupture or abortion.

Remarks.—It is rare to find a gravid Fallopian tube showing such extensive inflammatory changes as have been here described. The view that tubal pregnancy might be occasioned by preceding desquamative endosalpingitis, which at one time received support from several distinguished authorities, has been now generally abandoned, as evidence has been accumulating that in the great majority of cases no anatomical signs of inflammatory process can be found in a gravid tube. But it is obvious that a tube in which pregnancy has occurred may subsequently become exposed to the ordinary sources of tubal infection, with the result that tubal gestation and salpingitis will be found in company. There can be little doubt that this was the sequence of events in the present case. The patient was a fertile woman who had borne a child nine months previously and had been in perfectly good health up to the time of the occurrence of the tubal pregnancy. There is, therefore, nothing whatever to suggest the antecedent existence of salpingitis.

It is very difficult to believe that an ovum can become implanted upon an acutely inflamed tubal mucous membrane; yet this view has been held by a number of German observers, who have gone so far as to maintain that gestation may occur in a suppurating Fallopian tube. An examination of the cases upon which this statement is based shows that very little care has been taken to exclude the possibility of infection having been subsequent to impregnation; from the association of gestation and suppuration it has been too readily assumed that the latter preceded the former. Thus a case is recorded in support of this view by Prochownik in which tubal pregnancy and gonorrhœal infection occurred after a first coitus; after operation the mucous membrane of the gravid tube was found to be suppurating, the pus containing gonococci. It is perfectly clear that in this case the gonorrhœal infection could not possibly have been present in the tube at the time the ovum became implanted

in it, unless, indeed, gonorrhœal infection can ascend the genital canal more rapidly than spermatozoa. It is much more likely that the infection reached the tube at a later date, and in the usual manner, by progressive spread along the mucous membranes.

In the present case no pus was found in the tube and the source of the infection cannot be definitely determined, but infection from the uterus set up by the manipulation which was practised in the attempt to replace the uterus would appear to be the most probable explanation.

The chief lesson of the case is to emphasise the importance, in any doubtful case, of giving the most careful consideration to the differential diagnosis of retroversion of the gravid uterus and pelvic hæmatocele.

VOLVULUS IN A FŒTUS.

Shown by Dr. Drummond Maxwell.

A case of ante-natal volvulus involving the terminal portion of the ileum; gangrene and perforation of the intestines; abdominal distension, leading to arrest of labour during the second stage.

The specimen was removed from the body of a stillborn fœtus brought to the Curator's room at London Hospital by Mr. Telford Gibbons, and I am indebted to Mr. Keith for the opportunity of reporting on it.

The maternal condition.—The mother, aged 35, is twice married. The pregnancy which this specimen relates to is her second after an interval of ten years. The first child is alive and healthy. The health of the mother, both before and during the last pregnancy, appears to have been normal. The puerperium has been pyrexial

owing to injuries to the perineum incurred during the process of extraction of the child, but the mother is now again in perfect health.

Intra-uterine life of the child.—Information obtained on this point from the mother and medical attendant is indirect. The mother states that she distinctly felt fœtal movements ten days before labour ensued. The fœtal heart was not listened for. Mr. Gibbons states that when the child's head was born the face was at first pallid, but subsequently became cyanosed. These statements, taken in conjunction with the fluid state of the blood in the umbilical vein discovered eighteen hours after birth, make it practically certain that the fœtus was alive up to the point of delay of labour in the second stage.

History of labour.—Labour ensued on September 15th, 1906. The earlier stages progressed rapidly; three hours later Mr. Gibbons was sent for, and after the first stage of labour had been completed for two hours, delivery was essayed with forceps. After considerable traction the head was delivered, and the face, at first pallid, rapidly became cyanosed. Delay at this stage was attributed to impaction of the shoulders, and with great difficulty they were eventually freed. This stage of delivery occupied at least twenty minutes. Traction on the axillæ failed to advance the trunk, though it was maintained for several hours. It was about to be abandoned for evisceration when a final effort at traction proved successful, thus fortunately preserving an interesting specimen. There was a laceration of the maternal perineum up to the rectum, which was sutured and has healed soundly during the puerperium.

Autopsy.—September 16th, 1906, eighteen hours *post partum.*

External examination.—The fœtus is an exceptionally well developed male of full time. Its weight is 10½ lb. Both testicles are descended into the scrotum. No external deformities are noticed, with the exception of the abdominal distension, which, if the large size of the fœtus be con-

sidered, is not excessive. There are no signs of *post-mortem* decomposition noticed.

Internal examination of fœtus.—On opening the abdomen a dark-red, grumous fluid escaped, accompanied with air; the fluid was approximately 25 oz. in amount, and consisted apparently of ascitic fluid stained with meconium and blood.

The intestines were carefully detached from their mesentery from the stomach downwards. At a point 5 ft. 6 in. from the pylorus a large mass of puckered, adherent, and distended gut was arrived at. The involved coils of gut, with their proximal and distal portions, were removed and examined under water. On lightly separating the coils which were glued together by purulent lymph, it was apparent that a volvulus had taken place in the terminal portion of the ileum, and several perforations of the intestine were recognised. The affected portion of the ileum is its terminal 2 ft., with the exception of the last four inches. The involved gut measures in the specimen 24 in., but allowance must be made for its dilatation. A careful search was made for Meckel's diverticulum, but did not discover its existence. The importance of searching for this rudimentary portion of the ileum being due to the fact that in a considerable number of the neo-natal cases of volvulus recorded this structure seems to have played an important part in their etiology, its influence in the present case may therefore be dismissed.

A very marked contrast is observed at once between the entering and exit portions of the ileum involved. The former is dilated, and its contents, of a dark green hue, consist of meconium. The latter is blanched, empty, and contracted, and shows no signs on opening its interior that meconium has ever passed along the lumen. This point is of great interest as it serves to fix approximately the date at which the volvulus first formed. "Meconium reaches the ileo-colic junction in the fourth month, the rectum in the fifth."(1)

The volvulus has, therefore, existed anterior to the

fourth month. No other abnormalities of viscera, thoracic or abdominal, were discovered.

Description of the mounted specimen.—The dilated proximal coil of ileum (distended with meconium) is seen passing under the distal contracted ileum at its junction with the cæcum. At a point 1½ in. vertically below this crossing the mesenterics of both entering and exit loops of ileum are tightly stretched and twisted round each other. At this spot during examination under water the volvulus could be unravelled, and the coil was seen to have made one complete turn round its mesenteric axis. The whole of the included gut below the neck of the volvulus is gangrenous, and at least three large linear perforations can be seen.

Etiology of the volvulus.—The formation of this variety of volvulus is easily explained when the rotation of the intestine about its superior mesenteric arterial axis and subsequent fixation of mesentery are recollected, without invoking, as in many of the recorded cases, the indefinite explanation of "fœtal peritonitis."

"This rotation of intestine about the superior mesenteric axis takes place during the second month of fœtal life, another subsequent adhesion of the mesentery to the posterior abdominal wall is completed during the fourth and fifth months."

"The last part of the mesentery to become adherent to the posterior abdominal wall is that of the angle between the ileum and ascending colon; not infrequently this part remains free and it is then possible for a volvulus to form by rotation by the ileo-colic loop."(2)

In the specimen shown the terminal loop alone of the ileum has retained its free mesentery and become twisted subsequently. According to this explanation, then, the date of origin of the volvulus lies between the second and fourth months of fœtal life. Acute obstruction has probably existed only in the last weeks of pregnancy.

Remarks on condition.—The case shows clearly how passive is the *rôle* played by the fœtal intestine, since

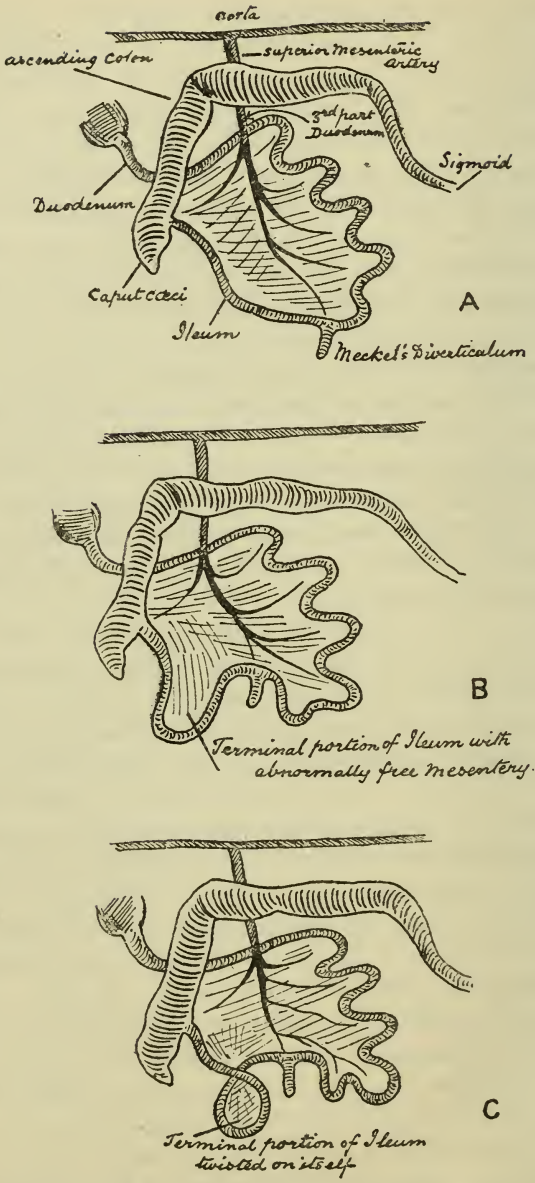
obstruction to the passage of meconium had had no apparent effect on the development of the fœtus. The mild grade of an ante-natal peritonitis is illustrated by the prolonged intra-uterine vitality of the fœtus probably up to the moment of delay in the second stage of labour. Unfortunately, the opportunity of investigating the bacteriology of this peritonitis did not present itself. It must remain open to doubt precisely how much of the obstruction to labour was due to the excessive development of the fœtus (10½ lb.) and how much to the abdominal dimension.

Literature.—A considerable amount of literature has accumulated on this subject, but the distinction between ante- and post-natal volvulus is not always clearly shown. The majority of the recorded cases show the influence of Meckel's diverticulum in producing the condition. Carwardine (3) reports an interesting case, fully investigated, produced by a volvulus of the diverticulum. Macallum (4) records a similar case.

Gessner (5) describes a case associated with "*situs inversus viscerum.*" Resinelli (6) reports a case associated with perforation of the gut. His article is followed by an exhaustive account of the literature on the subject, dating from the researches of Sir James Simpson on "Fœtal Peritonitis" up to modern times. The writer has only been able to discover one case where the causation is attributed to defects of mesenteric attachment. Clément (7) recorded a case last year in Paris with this etiology. As regards duration of life (*post partum*) with volvulus of intestine, Wallich (8) reports two cases one of which lived eight days, the other fourteen hours, though whether ante-natal or post-natal cases is not definitely stated.

The above research into the literature does not claim to be complete. Many cases would probably be discovered in the records of "Fœtal Peritonitis."

Three diagrams are appended: A, taken from Keith's 'Embryology' illustrates the relations of the fœtal intestine at the second month after revolution round the axis of



A. Relations of intestine after revolution round axis of superior mesenteric artery at second month of gestation (from "Human Embryology and Morphology," A. Keith). B and C. Mesenteric conditions in specimen.

the superior mesenteric artery; B and C illustrate the special mesenteric condition that gave rise to the volvulus.

I am indebted to Mr. P. H. Bahr, Clinical Clerk to Dr. Russell Andrews, for a water-colour sketch of the specimen.

References.

(1) A. Keith.—Human Embryology and Morphology, p. 347.

(2) *Loc. cit., supra.*

(3) Carwardine.—Brit. Med. Journ., December 4th, 1897.

(4) Macallum.—Obstet. Soc. Trans., vol. xviii, p. 116.

(5) Gessner.—Centralb. f. Gynak., xx, 279, 1896.

(6) Resinelli.—Ann. di Ostet. e Ginec., xxi, p. 86, 1899.

(7) Clément.—Ann. de Gyn. et d'Obstét. (abstract), September, 1906, p. 566.

(8) Wallich.—Ann. de Gyn. et d'Obstét., 1898, p. 201.

Dr. Nepean Longridge asked if there were any evidence of the time of the infant's death, and whether death was due to the condition of the intestines or to difficulty in delivery.

Dr. Gow doubted from what was stated by Dr. Maxwell whether the distension of the abdomen led in this case to the difficulty which was experienced in delivering the woman. He thought the large size of the child may have been the main cause of the obstructed labour. He alluded to a case of obstruction from distension of the fœtal abdomen in which attempts at delivery had resulted in the child's head being pulled away and then after version the legs were likewise pulled away from the trunk without completing the delivery. The patient in this condition was removed to Queen Charlotte's Hospital, and when the nature of the obstruction was recognised the trunk was easily extracted after the abdomen had been punctured.

SUPPOSED ENDOTHELIOMA OF THE CERVIX.

Shown by Dr. Russell Andrews.

Dr. Russell Andrews showed a supposed endothelioma of the cervix with microscopical sections. The sections were referred to the Pathology Committee.

Dr. T. G. Stevens said that it was impossible for Fellows to come to a conclusion about a difficult histological specimen in the short time open to them at the meetings of the Society. At first sight the specimen with its peculiar staining reaction appeared to be an ordinary squamous epithelioma, but as the growth was not quite typical it might possibly be of endothelial origin. Dr. Stevens suggested that further examination was required, and suggested that it should be referred to the Pathology Committee (see p. 302).

A CASE OF COMPLETE PROLAPSE OF AN INVERTED UTERUS.

By Dr. Henry Russell Andrews.

The patient was a widow, aged 46, who had had one child many years ago. The menopause occurred twelve months ago. Seven months before admission she felt her uterus come down suddenly, part of it appearing outside the vulva, when she was lifting a heavy weight. There was a good deal of watery discharge at first, but after about a month this became only slight. On account of increasing tenderness and pain she went first into an infirmary, and after spending three months in bed there came to the London Hospital.

She was anæmic and wasted and looked older than her age. The presence of the tender swelling between her legs prevented her from walking. She attributed the wasting to rheumatic gout.

On examination a firm red mass, the size of a goose's egg, was found hanging from the vulva, attached to the inverted vaginal walls. The mass was tender but did not bleed readily. The vaginal walls, which were very short, were thickened and puckered, and much indurated and papillomatous at their attachment to the tumour. On passing a finger into the rectum about ʒij of pus escaped from some cavity at the base of the tumour posteriorly.

A small swelling could be felt in the pelvic cavity, but could not be palpated with any thoroughness on account of the patient's tenderness. It was impossible to pass a probe into the cavity from which the pus had escaped, no opening being found.

The mass was thought to be an inverted uterus, but one could not be absolutely certain without an anæsthetic.

The patient was anæsthetised the next day, and the diagnosis was confirmed. The small body that had been felt *per rectum* was found to be the left ovary. Vaginal hysterectomy followed by posterior corporrhaphy was thought to be the best treatment, and this was carried out. Part of the vagina was removed with the uterus. The patient made a good recovery. There was nothing in her history to account for the inversion of the uterus.

Complete prolapse of the uterus and vagina with chronic inversion seems to be rare. Probably patients, as a rule, seek advice before the fundus has had time to descend outside the vulva. It would seem that in the case of my patient the inversion was of old standing, and that the prolapse was caused by the exertion of lifting the heavy weight.

PRIMARY TUBERCULOUS DISEASE OF THE CERVIX UTERI.

By Eric E. Young, M.S., M.B.(London),
RESIDENT SURGICAL OFFICER, NORTH STAFFS INFIRMARY

(Introduced by Dr. Champneys).

(*Abstract.*)

The rare occurrence of this disease affords the justification for submitting the following notes:

I. *History of the patient.*—Married; age 26; husband alive, and found, on examination, to be healthy; three pregnancies, all the three children healthy, the last born two and a half years ago. Always healthy. Catamenia regular up to six months ago, since then periods of longer duration. Five weeks, thick yellow inoffensive discharge from vagina, and constant aching pain in lower abdomen and sacral region. Never any bleeding from the vagina. No family history of tuberculosis.

II. *Condition of patient on admission.*—Thin; nervous and excitable. Lungs examined on several occasions, and invariably found normal. No tubercle bacilli demonstrated in sputum. Slight tenderness on deep palpation experienced in the hypogastric and left iliac regions. No enlargement of the inguinal lymphatic glands. The cervix indurated and greatly enlarged, its surface uneven and ulcerated in places, and in places nodular and papillary; not friable on examination. Uterus freely movable.

III. *Treatment.*—The suspicious nature of the disease suggested vaginal hysterectomy, which was performed.

IV. *Present condition of the patient.*—Examined six months subsequent to the operation, and found to be quite healthy. No recurrence of the disease had taken place.

V. *Appearance of the uterus after removal.*—This is furnished in two photographs, and contained in the paper are a report by

the Clinical Research Association, and one by Dr. Williamson, the former stating that the lesion may be of tuberculous origin, and the latter expressing no hesitation in affirming the case to be one of tuberculosis of the cervix.

VI. *The literature upon the subject and the discussion on the case.*—The author then furnishes the results of his inquiries into the literature upon the disease, and sums up the conclusions to be deduced therefrom. In the light of the history of reported cases and of the examination and treatment of the present patient, he then discusses the nature of the case now presented, and the difficulties attending a differential diagnosis.

VII. The rarity of the disease, its ætiology, pathology, symptoms, and treatment are briefly discussed.

The rarity of occurrence of a primary deposit of tubercle in the cervix uteri renders needless any apology for the publication of the following case.

With a view to reasonable completeness of statement, I have, as far as possible, examined the notes of similar published instances, and various papers also which from time to time have appeared upon the subject.

I first describe briefly the history and condition of the patient on admission on February 17th, 1905, to the North Staffordshire Infirmary under the care of Dr. Wheelton Hind, to whom I am deeply indebted for generous help and for permission to use the notes.

L. S—, aged 26, complained of a discharge from the vagina and pain in the abdomen and back.

History.—For the last five weeks the patient had noticed a thick, yellow, inoffensive discharge from the vagina, and a constant aching pain in the lower abdomen and sacral region. There had never been any bleeding from the vagina.

Past history.—The patient had never suffered from any serious illness, and she was quite well up to six months previous to admission to the hospital.

Family history.—No history of tuberculosis could be obtained.

Civil state.—Married. Husband alive and well. Pregnancies three; children three—the last born two years and five months ago.

Catamenia.—Menstruation was quite regular up to six months ago, but since that date the period had lasted for six to eight days, instead of four to five days as formerly.

Present condition.—The patient, though thin, is a healthy-looking woman of a somewhat nervous and excitable nature. The temperature on admission was 99·4° F., but it fell to normal the next day and has remained so until the operation. She states that she has not lost flesh.

Thorax.—The lungs were examined very carefully on several occasions, but nothing abnormal was at any time discovered.

Abdomen.—Slight tenderness on deep palpation is complained of in the hypogastric and left iliac regions, but no unusual condition can be traced. The inguinal lymphatic glands are not enlarged.

Pelvis.—*Per vaginam*: The cervix is hypertrophied, and forms a mushroom-shaped tumour; it is indurated. Its surface is hard and uneven and in places ulcerated—the ulcers being of varying size and most marked in the region of the external os—and in places nodular and papillary. The cervix is not friable, and does not bleed on examination. The vaginal walls are healthy. *Per speculum*: There is a quantity of thick, purulent matter in the upper part of the vagina. After the removal of this discharge, the cervix is seen to be deeply excavated in the region of the external os.

Bimanually.—The body of the uterus seems to be enlarged. The uterus is anteverted and freely movable. The remainder of the pelvic contents appear to be healthy. Examination does not cause any pain.

The sound passes for $3\frac{1}{2}$ in., with its concavity forwards.

The case was thought at first to be one of car-

cinoma, but on considering the patient's age, history, and the absence of hæmorrhage, the existence of chronic inflammatory disease and tuberculosis was also discussed.

So suspicious, however, did the nature of the disease appear, that vaginal hysterectomy was performed on March 4th, the growth being removed completely with little difficulty. Convalescence was uneventful, and the patient was discharged from the hospital on April 1st. She has remained well since, and in October, 1905—six months after the operation—I again examined the patient, and found her quite well, with no sign of recurrence of the disease in the pelvis or elsewhere.

The following Report upon a portion of the diseased tissue removed for microscopical examination was received from the Clinical Research Association:

"Specimen much spoilt by over-hardening. In the centre the specimen consists of inflammatory tissue, while here and there a giant cell can be seen. Though there are no miliary tubercles, yet the lesion may be of tubercular origin."

The uterus was then sent to St. Bartholomew's Hospital, and Dr. Herbert Williamson has very kindly furnished me with the appended Reports:

Report No. 1: Description of the Specimen.

"The specimen consists of a uterus removed by the operation of vaginal hysterectomy.

"The organ is hypertrophied, resembling in size a uterus in the fourth or fifth week of gestation; both body and cervix are enlarged, the cervix relatively more than the body. The peritoneal investment is shaggy, as from the presence of many adhesions.

"The cervix is thick and elongated. The portio vaginalis forms a mushroom-shaped tumour, which projects below the level of the vaginal fornices. The surface, hard and nodular, presents areas of ulceration; the loss

of substance is greatest around the os externum, where deep, crater-like excavations are seen. The tissues around these excavations are friable and necrotic; they can easily be scraped away with a blunt instrument, and the deeper parts are then seen to be composed of firm, fibrous-looking material.

"On mesial sagittal section the fibro-muscular wall of the body is hypertrophied, the mucous membrane is thick, but shows no macroscopic evidences of disease.

"In the cervix the area of ulceration extends nearly to the level of the os internum. In the upper part of the cervical canal the mucosa is greatly thickened."

Report No. 2: Microscopical Appearances.

"The tissue examined was a portion of the cervix, cut so as to include the area of ulceration and the deeper fibro-muscular wall.

"The mucous membrane covering the vaginal aspect of the cervix has entirely disappeared by a process of ulceration. The superficial portion of the fibro-muscular stroma is densely infiltrated with products of inflammation. Many typical tubercles are present; in the centre of these are large giant cells, some of which possess as many as fifteen or twenty nuclei, arranged round the periphery. The giant cells are surrounded by many layers of epithelial cells, and these, in their turn, by dense collections of small round cells.

"Towards the centre of many of the tubercles the tissues are degenerate, and the cells have lost their characteristic staining reactions, whilst in some parts of the section areas undergoing caseation are visible.

"The blood-vessels are few and small.

"The mucous membrane lining the cervical canal can still be recognised clearly; the tall columnar epithelium by which its surface is covered is well preserved, and in many places shows an unusual proliferation. The glands are numerous and sometimes lined by two or three layers

of epithelium, the superficial layer columnar, the deeper rounded or polygonal. Scattered tubercles and giant cells are seen in this structure also. An attempt has been made to demonstrate the presence of the tubercle bacillus in the tissues. This, however, has proved unsuccessful, possibly because the uterus had been immersed in formalin before the examination.

"From the characters and distribution of the giant cells, from the presence of the numerous typical tubercles bounded by well-marked fibrous tissue bands, and from the areas of caseation, I have no hesitation whatever in pronouncing the specimen to be one of tuberculosis of the cervix uteri."

Before I enter into a discussion of the case, I desire to record my grateful acknowledgments to Dr. Champneys, Mr. Spanton and Dr. Williamson for valued advice and aid in my investigation.

Tuberculosis of the cervix uteri is extremely rare; indeed, Rokitansky (1) even denied its existence in 1861. Its rarity is shown by the fact that in twenty-seven necropsies performed by Doran on tuberculous women only one case of cervical tuberculosis was discovered. It is seldom associated with tuberculosis of the fundus uteri; thus Spaeth found the cervix affected in six instances only out of 119 cases of uterine tuberculosis. The first undoubted instance, which proved to be secondary to disease of the urinary tract, seems to have been described by Virchow (2). Finally, its existence as a primary disease without evidence of tuberculosis elsewhere is still rarer.

In Emanuel's case of a woman aged 50 the lungs were healthy, while Whitridge Williams (3), in a very instructive paper, reports two cases of this disease, in one of which the autopsy disclosed pulmonary tuberculosis with caseous mesenteric glands. The pelvic organs here were not affected, with the exception of the lower third of the cervix and the upper part of the anterior vaginal wall,

where there existed a large, ulcerated surface with slightly elevated margin, the base of which was studded with greyish granulations containing typical giant cells and tubercle bacilli. The uterine body, adnexa and bladder were found, on careful microscopical examination, to be unaffected. In the second case, also, there were evidences of incipient pulmonary trouble. In reviewing the literature upon the subject, Williams urged that tuberculosis of the cervix, whether primary or secondary, tends, in conformity with some unascertained law, to restrict itself to that structure.

Vitrac details the case of a woman with tuberculosis of the cervix, in whom he found consolidation of the left lung at the apex. In Frank's case an undoubted past history of tuberculosis existed since she had had a metacarpal bone and phalanx excised for the disease, yet the lesion of the cervix was mistaken for carcinoma.

Zweigbaum (4), of Warsaw, mentions a case in which the vaginal portion of the cervix was alone affected, and the patient was apparently cured by the use of the cautery. She died later, however, of general tuberculosis, and tubercular ulceration in the vagina had recurred. It would seem, therefore, that in this instance the cervix was not the only part of the body involved when the case first came under observation.

Vassner (5), of Göttingen, reports that six instances of uterine tuberculosis occurred in the Göttingen Frauenklinik within ten months, and in only one did the tuberculosis affect the uterus alone. As regards their pathological anatomy, the following forms of the disease were recognised: tumour formation, shallow ulcers, miliary tubercles and bacillary catarrh.

Murphy (6), in his exhaustive and interesting address before the Chicago Surgical Society on October 18th, 1903 (from which I have largely quoted in these remarks), also describes four varieties of tuberculosis of the cervix:

(1) An ulcerative form, which may be easily mistaken for

carcinoma; and in this connection Whitridge Williams (7) is of opinion that operations for tubercular ulcerations of the cervix have not infrequently been performed on the supposition of their carcinomatous origin. There may be large or small ulcers: if of the former variety the ulcer is generally single, while the latter are usually multiple. The entire portio vaginalis may be eroded and excavated. The edges of such an ulcer are abrupt, whilst its base is lower than its margin, thus distinguishing it from cervical erosions.

(2) A bacillary catarrhal form, first pointed out by Schütte, where the disease is limited to the surface epithelium.

(3) A papillary form, consisting of proliferating fungous masses, beneath which are found tubercular granulations.

(4) A miliary form, which is most easily recognised, tubercles being scattered over the portio vaginalis, cervical mucosa, and in the stroma of the cervix.

Fraenkel first pointed out that the disease may exist with a similar lesion of the Fallopian tube, whilst the fundus remains perfectly free. Whitridge Williams (8), in his careful and exhaustive article on "Tuberculosis of the Female Genitalia," makes but few observations regarding primary tuberculous disease of the cervix, and observes that if the body be affected the cervix is rarely involved, and *vice versâ*, while the cervix may be the only part of the entire body presenting tuberculosis. Sinclair demonstrated the fact that in tuberculosis of the fundus the disease very seldom spreads beyond the internal os, while carcinoma of the cervix rarely spreads upwards through the os.

The presence of the tubercle bacillus can very rarely be verified, and this is probably owing to the seat of the disease being ill adapted for the development of the bacillus, as evidenced by the rarity of the disease in this situation. Murphy, in his Presidential Address, submits the question whether this fact is due to the tenacious secretion of the mucous membrane of the cervix, or, as

Vassner believes, to the thick epithelial layer here opposing the penetration of the bacilli.

Symptoms and diagnosis.—From the information which I have been able to gather from the various reported cases the objective symptoms are very vague, and cannot be relied upon as a guide to diagnosis and treatment.

It appears, however, that the disease is most active during sexual life, and most commonly occurs between the ages of twenty and thirty. The most frequent complaint seems to be leucorrhœa, purulent in character, which may be tinged occasionally with blood, and possessing a peculiarly offensive odour.

The effect of the lesion on menstruation is not constant; more frequently, as in my case, the patients seem to suffer from menorrhagia, while in some of the recorded instances amenorrhœa has existed. Little or no pain, generally, is experienced. There may be slight bleeding from the growth on vaginal examination.

There is usually ascertained to be a history of a very slow progress in the course of the disease.

The greatest difficulty occurs at times in the diagnosis between a tuberculous and carcinomatous lesion, and in Beyea's statistics, showing the perplexity in diagnosis, 14 cases out of 56 were wrongly thought to be carcinoma.

Lewers (9) reports a case, very similar to my own, with the exception that a history of bleeding was found, and the growth also bled on examination; and here again the diagnosis of carcinoma was arrived at, while the real nature of the growth was only discovered after operation. He cites Cullen (10), who, though reporting several cases of tuberculosis of the uterus in his book, does not mention any case in which the disease was limited to, and primarily resident in, the cervix. He also quotes Pozzi (11), who speaks of the rarity of invasion of the generative apparatus by tubercle, and states that the cervix seems to be particularly refractory, the tubes most frequently constituting the starting-point, whence the disease proceeds to the ovaries, and rarely to the uterus.

Nassauer (12) describes the case of a patient, aged 45, whose uterus was removed for carcinoma of the cervix. Examination of the specimen, however, showed that besides malignant disease of the cervix two reddish nodules, the size of cherries, projected along the normal corporeal endometrium. Microscopically these consisted of numerous irregular dilated glands, the lumina of which were partly empty and partly filled with leucocytes. There were also several flat cells and a few tubercle bacilli.

Nassauer (13) reports a rare instance of epithelioma of the cervix, in which an examination of the extirpated organ disclosed several tuberculous nodules in the corporeal endometrium, the lowest nodule being one inch above the upper limit of the malignant disease. These nodules were supposed to be cancerous until a microscopical examination proved that they contained numerous giant cells and tubercle bacilli. The apparently healthy endometrium was also the seat of commencing tuberculous disease. Since the cancerous affection had existed for upwards of four months, and the tubercles were evidently of recent origin, the writer inferred that the latter developed subsequently, and were the primary seat of infection. There was no evidence of tuberculosis elsewhere in the system.

We thus observe that tuberculosis and carcinoma may co-exist in the same organ, thus rendering the diagnosis still more complex, and demanding early and radical surgical interference. On the other hand, the ease with which this lesion may be confounded with carcinoma in its early stages may supply an explanation of some of the few cases of so-called cures after operation in supposed carcinoma of the cervix, where sections of the growth have not been cut and examined microscopically.

Extreme care is, therefore, necessary in establishing a differential diagnosis between tuberculosis, erosion, and commencing carcinoma of the cervix, and we must rely upon (1) an examination of a portion of the growth, microscopically and bacteriologically; (2) inoculation ex-

periments; (3) the clinical characteristics of the lesion furnished by a minute and exhaustive examination locally, under an anæsthetic if necessary; (4) any signs of tuberculosis in other parts of the body; and (5), lastly, a knowledge of the patient's personal history and of the duration of the subjective symptoms.

Whitridge Williams (14), in discussing the great importance of distinguishing a tuberculous from a cancerous ulceration of the cervix—since hæmorrhage and a foul discharge may be present in both—insists that the detection of tubercle bacilli in the vaginal discharge furnishes the only positive evidence of the true condition.

As regards the etiology, I will merely refer to the possibility of infection by means of the blood-stream and by direct contact.

In favour of the former Kleinhaus argues: (1) the existence of tuberculosis of the genitalia following tuberculosis of the lungs, with no intermediate foci; (2) the frequent localisation of tuberculosis on the site of the placental attachment; and (3) the transmissibility of the bacillus from the mother to the fœtus.

Coition was regarded as a probable starting-point by both Cohnheim (15) in 1879 and Verneuil in 1883 (16); and Murphy (17) reports a case in which direct transmission by coitus also occurred, though he has seen so many instances of tuberculosis of the epididymis with the tubercle bacillus in the urine and seminal discharge in married men without the wife being affected, that he concludes that other conditions are necessary for the development of tuberculosis in the female genital tract.

Williams (18) considers that tuberculosis of the cervix is doubtless due to direct infection by the fingers, by instruments, by coitus, rather than to the contact of infectious discharges originating higher up in the genital canal, there being a previous lesion of the cervix as well as an "inherited predisposition to genital tuberculosis."

Frankenberg (19) discusses the possibility of infection through coitus, which he regards as probably, but not posi-

tively, demonstrated by the presence of tubercle bacilli in the semen of males.

Other cases have been reported of female genital tuberculosis when the husband suffered from tuberculous disease of the testicle, notably by Pfannensteil, and many similar instances in which the husband was tuberculous and the wife healthy are reported by Keppler, Strassman, Hofmeier, von Frangue, Jacobs, and others.

Gaertner is of opinion that infection by means of coitus must be rare on the ground that if it frequently occurred the glans penis and male urethra would often be found to be the seat of tuberculous lesions, whereas in actual experience this is only exceptionally the case.

Popoff (20) as the result of numerous experiments, made by injecting a bacillary culture into the vagina of healthy guinea-pigs, concludes—(first) that it is impossible to infect the genital organs with tuberculosis unless there is some preceding trauma; and (secondly) that in cases of tuberculosis following traumatism the lesions remain localised in the genital apparatus and the lymphatic glands in connection with it.

The prognosis of tuberculous disease of the cervix uteri is naturally as gravely important as in tuberculous lesions in any other position of the body; but it may be said to be favourable if the disease is efficiently treated surgically, and depends largely upon the existence or absence of tuberculous lesions elsewhere and their extent.

The general opinion in respect of treatment seems to be in favour of radical measures.

Frank and Emanuel believe it best to remove the uterus, and in this connection Pozzi (21) remarks: "There should be no hesitation in performing hysterectomy even for a very circumscribed ulceration of the cervix if the diagnosis be certain."

Lewers (22) expresses practically the same judgment, and observes that "given a case of primary tuberculosis of the cervix, where there is reason to believe there is no tuberculosis elsewhere, vaginal hysterectomy is the right treatment."

On the other hand, Murphy (23) is of opinion that "in cases where the cervix alone is involved amputation of the cervix is ample; an operation, as panhysterectomy, which gives a mortality of 30 per cent., should not be performed except in the rarest of instances."

If the patient objects to the more radical form of treatment by removal of the uterus, after the facts have all been carefully explained to her, then milder measures must be resorted to, placing first amputation of the cervix, and, failing this, many observers are in favour of curetting and cauterising, either by the actual cautery or by means of zinc chloride; this more conservative treatment is considered to be sufficient to arrest the disease by some authorities.

The specimen was referred to the Pathology Committee (see p. 302).

References.

(1) Rokitansky.—Lehrbuch der Path. Anat., 3 auf., Bd. 3, p. 449.

(2) Virchow.—Archiv., Bd. 5, p. 404.

(3) Williams.—Johns Hopkins Hospital Reports, vol. iii, 1894, p. 85.

(4) Zweigbaum.—British Medical Journal, 1889, p. 93.

(5) Vassner.—Archiv für Gyn., lvii.

(6) Murphy.—Tuberculosis of the Female Genitalia and Peritoneum. Amer. Jour. Obstet., vol. xlviii, July–December, 1903.

(7) Whitridge Williams.—*Loc. cit., supra.*

(8) Whitridge Williams.—*Loc. cit., supra.*

(9) Lewers.—Obstet. Soc. Trans., 1902, p. 144.

(10) Cullen.—Cancer of the Uterus.

(11) Pozzi.—Treatise of Gynæcology, vol. iii. New Sydenham Society's translation, 1893, vol. iii.

(12) Nassauer.—Inaugural Address, Centralblatt für Gynäkologie, 1895, No. 29.

(13) Nassauer.—Centralblatt für Gynäkologie, 1896.

(14) Whitridge Williams.—*Loc. cit., supra.*

(15) Cohnheim.—Tuberculose von Standpunkte der Infectionslehre, Leipzig. Translation by de Musgrave Clay, Paris, 1882.

(16) Verneuil.—Gaz. Hebdom. de Med., Paris, Nos. 14 and 15, April 6th, 1883, p. 225.

(17) Murphy.—*Loc. cit., supra.*

(18) Williams.—Medical Press, September, 1894.

(19) Frankenberg.—Münchener med. Wochenschrift, 1893, No. 17.

(20) Popoff.—Ann. de Gynéc., Paris, February, 1900.

(21) Pozzi.—Treatise on Gynæcology, vol. iii, p. 142.

(22) Lewers.—Obstet. Soc. Trans., vol. xliv, 1902.

(23) Murphy.—*Loc. cit., supra.*

Dr. Amand Routh congratulated Mr. Young on his paper and considered it would lead to more facility in making a clinical diagnosis before operation, instead of leaving the nature of the growth to be determined by microscopical examination of the removed growth. The paper would also lead gynæcologists to modify their opinion as regards the relative frequency of primary tuberculosis of the Fallopian tubes as compared with that disease primarily affecting the cervix uteri. It appeared possible that in addition to bacteriological test one point in the diagnosis between tuberculosis and epithelioma of the cervix was the greater friability and tendency to bleed on contact of the epithelioma, but more cases were required for this point to be confirmed.

Dr. Heywood Smith ventured to suggest that this case might be one of areolar hyperplasia of the cervix. The patient had had three children before she was twenty-three and a half years old, so probably had not nursed her children for a sufficient length of time. This would favour subinvolution, and consequent inflammatory induration; this condition would also lead to irregular and somewhat profuse menstruation. There was no convection of symptoms to the lungs, nor had any tubercle bacillus been found. The cervix presented the aspect of a bad case of areolar hyperplasia, and he would ask if the evidence was sufficiently strong to enable one to pronounce it undoubtedly one of tuberculosis.

Dr. Lewers congratulated Mr. Young on the paper and considered that the case recorded in some respects was similar to one he had himself communciated to the Society some years ago. It was the cases in which the disease was limited to the cervix

without the occurrence of any tubercular lesions in any other part of the body which were so extremely rare. He considered that vaginal hysterectomy was on the whole the best treatment for these cases, and in his own case the patient had remained well for several years after that operation.

Dr. Galabin said that his experience confirmed what had been said as to the difficulty of distinguishing in some cases between tubercle of the cervix and cancer, especially when tubercle was accompanied by a sanguineous discharge. In one instance he had removed the uterus by vaginal hysterectomy for what he supposed to be cancer of the cervix; and only microscopic examination after removal revealed that the disease was tubercle. In this instance the disease had extended to the body of the uterus, so that no local treatment short of hysterectomy would have been of any avail.

Dr. Herbert Spencer hoped that the specimens would be submitted to the Pathology Committee as there was a difference of opinion among the pathologists who had already examined them. He had, personally, no experience of primary tubercle of the cervix; but he had seen Sir John Williams successfully treat cases of tubercle of the vagina by the cautery, and he had himself treated a case of tubercle of the body of the uterus by curetting and iodoform and iodine, the patient being quite well over a year later. He thought that hysterectomy was a very severe treatment for tuberculosis of the cervix, and that local applications should be adopted in cases of tuberculosis of the body before resorting to the severer operation.

Dr. Russell Andrews described a case in which he had had to consider the diagnosis between early carcinoma and tuberculosis of the cervix in a patient aged 26, who complained of pain and bleeding. The vaginal portion of the cervix was occupied by an ulcer with uneven surface, which bled a little on examination. The edge was indurated and the tissue was rather friable. Microscopical examination of a small piece removed by the knife showed simply young connective tissue. The case was cleared up by the development of secondary syphilitic manifestations. The ulcer was a primary sore.

Dr. Champneys said the Society were indebted to Mr. Young for the excellent and careful paper which had just been read. He moved that the specimen be referred to the Pathology Committee (see p. 302).

NOVEMBER 7TH, 1906.

W. R. DAKIN, M.D., President, in the Chair.

Present—38 Fellows and 4 visitors.

Books were presented by the Medical Society of Copenhagen, the Edinburgh Obstetrical Society, and Drs. Cullingworth, John Phillips, Giles, and Mr. Bland-Sutton.

William Gavin Hamilton, L.R.C.P.Lond., Capt. I.M.S., and Ida Russell Shields, M.B., B.S.Lond., were admitted Fellows of the Society.

The following gentlemen were elected Fellows of the Society: H. N. Anklesaria, L.R.C.P., F.R.C.S.Edin.; Charles J. Battle, M.R.C.S., L.R.C.P. (Natal); Douglas Drew, B.S., F.R.C.S.Eng.; Albert Richard Henchley, M.D.(Brux.), L.R.C.P., L.R.C.S.Edin. (Canterbury); George Hope, D.P.H., L.R.C.P., M.R.C.S.Lond.; William Fletcher Shaw, M.D.Vict. (Manchester); Frederick Ernest Withers, M.R.C.S., L.R.C.P. (Horncastle).

The following candidates were proposed for election: Thomas Reginald St. Johnston, M.R.C.S., L.R.C.P., and Eardley L. Holland, M.B., B S.Lond., F.R.C.S.Eng.

Report of the Pathology Committee on Mr. E. Young's Microscopic Section of Primary Tuberculosis of the Cervix Uteri (see p. 286).

"We have examined this microscopic section and agree with the exhibitor that it is a case of tuberculosis of the cervix uteri."

(*Signed*) Cuthbert Lockyer.
C. Hubert Roberts.
G. Bellingham Smith.
Herbert R. Spencer.
Herbert Williamson.
Corrie Keep.
W. S. A. Griffith, *Chairman.*

Report of the Pathology Committee on Dr. H. Russell Andrews' Specimen and Microscopic Section of supposed Endothelioma of the Cervix (*as described by the Exhibitor*) (see p. 283).

"We have examined this specimen and microscopic sections thereof, and consider it to be a squamous-celled epithelioma. The growth shows the presence of typical epithelial pearls, composed of keratinised cells, lying in alveolar spaces in the fibrous stroma, and other cell-nests surrounded by epithelial cells which have not undergone degeneration. We find no evidence to justify the diagnosis of endothelioma."

(*Signed*) Cuthbert Lockyer.
C. Hubert Robert.
G. Bellingham Smith.
Herbert R. Spencer.
Herbert Williamson.
Corrie Keep.
W. S. A. Griffith, *Chairman.*

MYOMECTOMY DURING PREGNANCY AND LABOUR AT TERM IN AN ELDERLY PRIMIPARA, WITH NOTES ON SIMILAR CASES.

By Alban Doran, F.R.C.S.

Myomectomy has often been performed during pregnancy with the most satisfactory results. Gestation is, as a rule, uninterrupted, and when labour sets in the expulsive powers of the uterus seem to be but little impaired. This has been noted even in subjects where the wound in the uterine walls inflicted at the operation was of considerable length, breadth, and depth. The case which I will now relate is mainly of interest because the patient had reached the age of thirty-five years and was pregnant for the first time. The history of the subsequent first labour is therefore, in my opinion, worth reporting. I will also make some mention of a few other instances of labour in elderly primiparæ following myomectomy during pregnancy, taken from the reports of the experience of others published during the current year.

A woman, aged 35, was brought to me for examination at the end of February, 1906. She had consulted Dr. Meerwald, of Maida Vale, on account of amenorrhœa; the last period began on October 25th, 1905. Morning sickness troubled her during November and December. Dr. Meerwald detected a swelling, with all the characters of a gravid uterus, above the pubes, but the pelvic condition appeared abnormal.

The patient was strong and healthy. The abdominal walls showed no lineæ albicantes. The body of the uterus could be clearly felt in the hypogastrium, occupying two thirds of the space between the umbilicus and pubes. The cervix was fairly long and firm, the os externum narrow and oval. A prominent conical body occupied the left fornix; it was very tender when pressed

and moved slightly with the uterus. On rectal examination it was found to lie in front of the bowel. The upper limits of the body in the pelvis could not be clearly defined. The patient's general condition was satisfactory.

Thus there was evidently a morbid growth connected with the posterior part of the lower segment of the uterus, most probably a fibroid likely to prejudice labour. Considering the small risk, even of interruption of pregnancy, which attends myomectomy, I decided to operate, although the tumour lay in a rather awkward position for manipulation without much disturbance of the gravid uterus.

Operation.—On March 6th I operated, with the assistance of Mr. Butler-Smythe. Mr. Morley administered ethyl-chloride, followed by ether and then chloroform. The pelvis was elevated. I prolonged the abdominal wound to one inch above the umbilicus so that I was enabled to draw out the gravid uterus and examine its lower and posterior aspects without dragging or pressing. I then discovered two subserous, pedunculated growths springing from the posterior aspect of the inferior uterine segment close to the left border of the uterus; by cautious rotation of the uterus towards the right I was able to bring the two growths out of the lower part of the abdominal wound. Gauze pads were packed behind the uterus and in the left iliac region. The smaller growth was two inches long, very tough, and attached to the uterus by a short vascular pedicle awkwardly near to the larger tumour; it could hardly have interfered with labour, but I found that I could not very well reach the bigger outgrowth until I had removed it; I enucleated it in part, split it open, and then was able to secure its pedicle by transfixion with a No. 4 Chinese twist.

The larger growth was now more conveniently placed for removal. It measured over four inches in length, and two inches at its broadest part, and it ended in the very blunt point so prominent in the pelvic cavity when the patient was examined. The pedicle was relatively thick; I enucleated the growth to a certain extent after split-

ting it and closed the remains of the capsule with a No. 1 continuous silk suture, then I transfixed it with stouter silk. The growth, a calcified fibro-myoma, adhered strongly to the capsule, so that only a short piece of capsule could be saved; on that account I was compelled to transfix, as not until the transfixing suture was tied could I stop the bleeding.

The peritoneum was closed with No. 1 van Horn catgut, the integuments and sheath of the recti with interrupted silkworm-gut.

There were no complications during convalescence nor in the further course of the pregnancy, which went on to full term. The patient was attended by Mr. W. H. F. Oxley, of Poplar, to whom I am indebted for the following report of the labour:

"Mrs. —— sent for me first on August 10th. She was then having pains about every ten minutes and the os was of the size of a shilling, the vertex presenting in the occipito-posterior position. The membranes were very thin and ruptured after the first examination. There was very little liquor amnii.

"The pains continued fairly strong, about every five minutes during the next three days. A sedative draught each evening gave relief for about a couple of hours.

"On the 13th I was able, though with great difficulty, to introduce the forceps, under chloroform, through the os, which was then not much larger than half-a-crown.

"There was no trouble in extraction. I think that the age of the patient coupled with the early rupture of the membranes and the position of the head were sufficient to account for the slow dilatation of the os, and I do not think that the operation had any effect whatever upon the course of labour.

"The uterus contracted well after extraction;* there was no pelvic deformity."

On September 14th the patient came to see me at the Samaritan Hospital, bringing her infant, a healthy female

* There was no *post-partum* hæmorrhage.

child. She had suckled it for about a week, but it did not thrive until it was fed artificially.

The patient herself was in very good health. The abdominal wound healed well and was deeply pigmented along its entire course *. The uterus could be freely moved, involution was perfect, and the fornices were quite free. I failed to detect anything abnormal in the posterior part of the inferior segment of the uterus, the seat of the myomectomy. The cervix was slightly lacerated on the left side of the os, the perineum was entire.

Myomectomy and elderly primiparæ.

The patient was 35 years of age and carried the child to term. The first stage was long, but, as I have explained, there is no evidence that the delay was due to the operation. The child was saved and reared.

Recently published reports show that, as in my case, the gravid uterus in an elderly subject pregnant for the first time tolerates myomectomy. Thring, of Sydney (1), enucleated a necrotic interstitial fibroid of the size of a large orange from the anterior wall of the uterus of a woman aged 38, in the sixth month of her first pregnancy. "At one point the mucous membrane lining the uterine cavity was exposed." Yet the patient was delivered spontaneously of a healthy living child at full term. On the other hand, a woman aged 40 underwent myomectomy at the end of the sixth month of her first pregnancy, but aborted thirty-six hours after the operation. In this instance, however, the operation was severe, as the fibroid, enucleated through an incision made in the fundus and anterior surface of the uterus, was "about equal in size to an ostrich's egg." The fœtus, placenta, and membranes came away easily, but the uterus did not contract well and the temperature rose. After the use of the curette on the fifth day the patient recovered.†

* On March 29th, the day of her discharge from the hospital, I observed slight pigmentation around the suture tracks.

† An article entitled "A Seventh Case of Myomectomy during Preg-

Dr. Joseph Stewart, of Leeds (2), recently operated on a woman, aged 35, in the sixth month of her first pregnancy. There had been symptoms simulating axial rotation of an ovarian cyst. He enucleated a large sessile fibroid attached to the left of the fundus, rotating the gravid uterus somewhat towards the right. A large gap was left not easily closed. According to the published report "the patient was delivered of a boy at full term." Dr. Stewart has kindly sent me fuller details of the labour. It ended spontaneously in six hours and a half; the head was in the first position and the liquor amnii seemed normal in amount. There was no difficulty about the expulsion of the placenta. I was chiefly interested in the contractions of the uterus; they were normal as far as I could make out. I could discover no indentation representing the spot from which the tumour had been enucleated."

A general survey of current opinions and experience relating to the treatment of fibroids during pregnancy lies beyond the limits of this brief communication. I may refer the reader to Dr. Amand Routh's (3) recently published lecture on the subject, and to Tuffier and de Rouville's memoir (4) read and discussed at the Lisbon meeting of the International Medical Congress. References to earlier writings about myomectomy in pregnancy will be found in a report of a case in my own practice where the patient was a primipara aged 28 (5). I removed, during the second month, a sessile fibroid over 2 lb. in weight from the back and fundus of the uterus. Labour took place at term, and was lingering on account of breech presentation and hydramnion, but the child was saved

nancy," by the same author, appeared in the 'Journ. of Obstet. and Gyn. of the Brit. Empire' for November, 1906, p. 480. The patient was a primipara, aged 32. Thring removed "a large fibro-myoma growing from the fundus uteri behind the left cornu" in the fourth month. The report, however, was written one week after the operation; at that date there had been no sign of premature labour. The after-history will be of some interest as the uterine wall was infested with fibroids, and, as in Thring's first case mentioned above, the mucosa of the uterus was exposed during the enucleation.

and reared. I mention this case because the age, twenty-eight, is beyond the average for primiparæ in the United Kingdom. The great excess of liquor amnii in this instance of labour after myomectomy is worth noting, as in the case which I have reported above in full it was very deficient. The relation of the excess or deficiency to the operation is not evident.

References.

(1) Thring.—Six Cases of Myomectomy during Pregnancy, Journ. of Obst. and Gyn. of Brit. Emp., vol. x, p. 263.

(2) Stewart.—Enucleation of Fibro-myoma of Uterus during Pregnancy, Brit. Med. Journ., vol. i, 1906, p. 548.

(3) Routh.—A Lecture on Fibroids and Ovarian Cysts complicating Pregnancy, Parturition, and the Puerperium, Clinical Journal, May 23rd, 1906, p. 81.

(4) McCann, F. J.—Fifteenth Medical Congress, Lisbon, Journ. of Obst. and Gyn. of Brit. Emp., August, 1906, pp. 159–166.

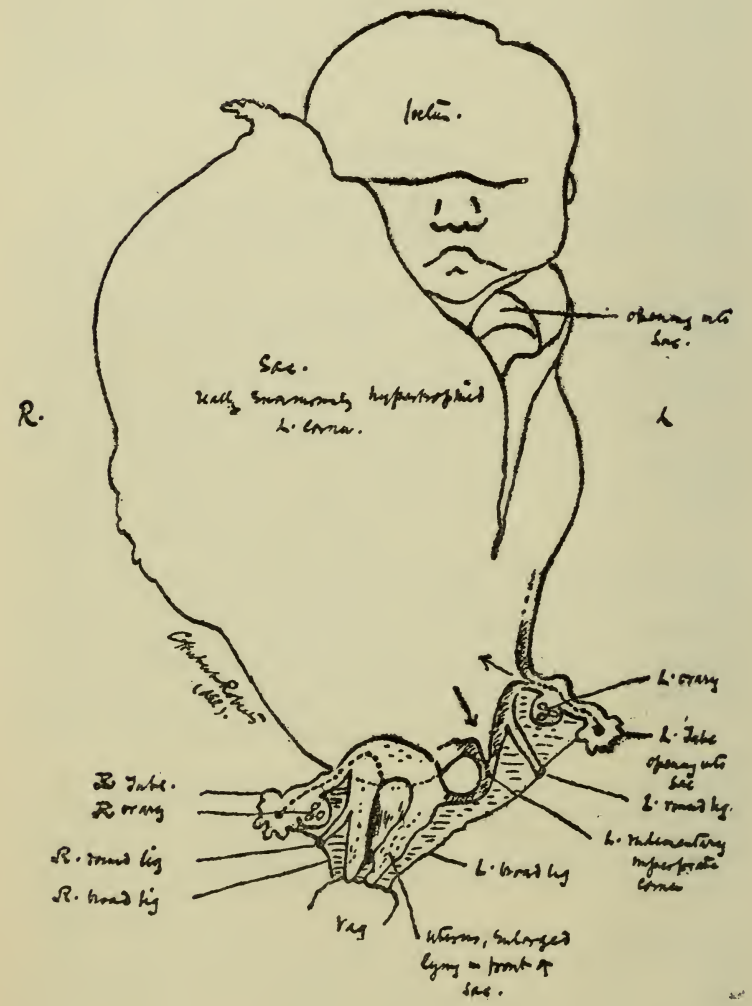
(5) Doran.—A Myomectomy and an Ovariotomy for Fibroma during Pregnancy; Labour at Term in both Cases, Journ. of Obst. and Gyn. of Brit. Emp., November, 1905, p. 297; also Fibro-myoma removed by Abdominal Myomectomy in Second Month of Pregnancy; Labour at Term; Obst. Soc. Trans., vol. xlvii, 1905, p. 426.

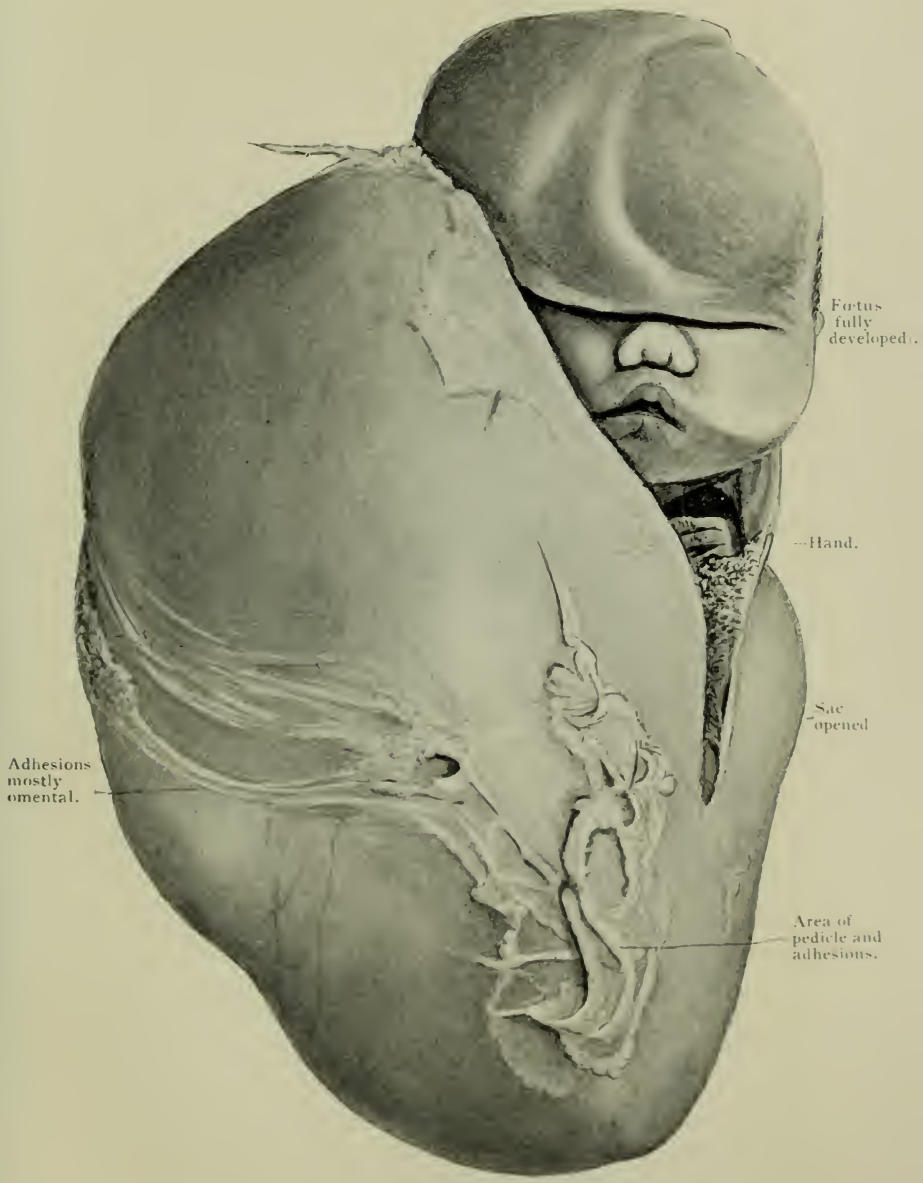
Dr. Lewers referred to a case in which he had performed myomectomy at the fifth month of pregnancy for a subperitoneal fibroid the size of a tangerine orange. The pregnancy was not interrupted, and the patient was delivered normally at full term. He had operated under the impression that the tumour was an ovarian dermoid.

Mr. Alban Doran, in reply, observed that he had stated in his communication the reason why he decided to operate. Diagnosis was, as in Dr. Lewers' case, not quite certain. He did not approve of the removal during pregnancy of fibroids of the fundus or of any part of the uterus above the pelvic brim, save under exceptional circumstances.

Illustrating Dr. Roberts' case of Cornual Pregnancy at Full Term.

(*Proposed reconstruction.*)





Illustrating Dr. Hubert Roberts's Case of Cornual Pregnancy (at full time).

Adlard & Son, Imp.

CORNUAL PREGNANCY AT FULL TERM REMOVED SIX MONTHS AFTER THE DEATH OF THE CHILD.

(With Plate XXV.)

Shown by Dr. C. Hubert Roberts.

This case is of interest owing to its rarity and the fact that the pregnancy went to term in a rudimentary horn of a bicornuate uterus. The tumour was removed by abdominal section six months after the probable death of the child. A drawing of the specimen is appended, and an epitome of Dr. Herbert Williamson's report. A detailed description of the case and specimen appears in the December number of the 'Journal of Obstetrics and Gynæcology of the British Empire,' 1906, p. 604.

The history is briefly this: Twelve months before the patient's admission to the Samaritan Hospital her own doctor told her she was three months pregnant. Her confinement was expected in July, 1905, but did not come off as expected. The child was alive and movements felt in July. About December, 1905, she had a severe attack of abdominal pain and peritonitis. She still had a tumour, but it was smaller. In January, 1906, her own doctor saw her again and told her that her condition was due to pregnancy, but that the child was not in the womb. She was sent up to the Samaritan Hospital on February 1st, 1906. The diagnosis was uncertain, as there were no evidences of pregnancy and the swelling was taken to be either extra-uterine, fibrous, or solid ovarian. The tumour reached three inches above the navel and was very hard and nodular. No fœtal heart sounds or movements. The cervix was displaced upwards by a mass in Douglas's pouch. The sound passed 4¾ inches. The patient was in good health and complained of nothing but the inconvenience of the tumour. Abdominal section was performed on February 17th, 1906, and the tumour removed. Its pedicle appeared

to be attached to the region of the left tube and cornu of the uterus. The uterus itself was a little enlarged, but otherwise normal, as were the right tube and ovary. The left ovary was not seen. Omental adhesions were very troublesome. The patient did well. The abdomen was not drained. On opening the tumour after the operation it was found to contain a full-term child. The sac walls resembled those of a full-term uterus. No trace of any structure like a Fallopian tube could be made out. The walls contained unstriped muscle, but the lining membrane was too degenerate for identification. The placenta was situated in the sac and had undergone hyaline changes, like those found in the placenta of a fœtus papyraceus. The child itself was fully developed or even post-mature, and its nails extended a quarter of an inch beyond the finger-tips.

Dr. Williamson is of opinion, from examination of sections of the sac-wall, that it must be either tubal or cornual in origin. As the development is so great and pregnancy has reached full term, the latter hypothesis is more probable. It is impossible from examination of the specimen to state its relationship to the tube or round ligament.

Dr. Roberts also showed a similar specimen from St. Bartholomew's Hospital Museum, in which rupture occurred at the fourth month.

Mr. Alban Doran considered that Dr. Roberts did right when he saved the normal cornu which had already borne children. He himself removed a ruptured cornual sac in September, 1904. The opposite cornu had been the seat of normal pregnancy; one year after the operation the patient gave birth to a living child. The case was published in the 'Journ. of Obstet. and Gyn. of the Brit. Empire' for June, 1906. A further report of Dr. Roberts' case, should pregnancy occur, would be interesting.

Dr. C. Nepean Longridge drew attention to a figure published by Francois Mauriceau in his work 'Les Maladies des Femmes Grosses,' 1682. This figure is believed to be one of the earliest drawings of an ectopic gestation, and is of great

Illustrating Dr. ROBERTS's Case of Cancer of the Uterus.

C. Hubert Roberts, ad nat del. *Adlard & Son, Impr.*

DESCRIPTION OF PLATE XXVI,

Illustrating Dr. C. Hubert Roberts's case of Cancer of Uterus.

a. Circumscribed growth near os internum. *b*. Secondary growth in fundus. *c*. Mucous polyp.

historical interest, because Mauriceau, in opposition to the view taken by others of the faculty in Paris who saw the specimen, insisted that it was one of interstitial pregnancy. He bases his diagnosis on the fact that the round ligament was attached to the lower and outer part of the sac. The figure is similar in all essential points to the specimen and drawing exhibited by Dr. Roberts.

A CURIOUS CASE OF CANCER OF THE UTERUS.

(With Plate XXVI.)

By Dr. C. Hubert Roberts.

Dr. Roberts showed a specimen of cancer of the uterus removed by vaginal hysterectomy from a patient aged 42. The case, he thought, was one of interest owing to the peculiarity of the specimen, which showed co-existing malignant growths at the region of the os internum and at the fundus uteri. The patient was admitted to the Samaritan Free Hospital for Women on April 19th, 1906. Ten years previously she had been under Dr. Roberts' care for accidental hæmorrhage occurring at the eighth month of pregnancy, but under treatment she went to term and was delivered naturally. Her present illness dated back for five or six months; it commenced with a flooding, and has been followed by more or less continuous hæmorrhage. Three weeks before her admission to the hospital she had two very severe losses, one of which was so bad that she became very collapsed. Her own medical attendant (Dr. Frank Rushworth) sent her to Dr. Roberts on account of this. Previous to the first flooding five or six months ago, she had been regular. There was a history of pain during the three months before her admission.

When first seen at the hospital she was very blanched and ill and was losing freely the discharge being almost pure blood. It was not foul. On examination *per vaginam*, the cervical canal was dilated, and near the region of the os internum a friable growth could be

made out which bled freely on touch. The cervix itself seemed healthy, and the uterus, though bulky, was mobile. It was doubtful at the time whether the growth was a sloughing fibroid or malignant disease.

On April 23rd, 1906, the patient was examined under chloroform. The growth high up on the cervical canal was now very evident, and a portion which broke away under the examining finger was preserved for microscopical examination. It subsequently proved to be a columnar-celled carcinoma.

On April 28th, 1906, the uterus was removed by vaginal hysterectomy. Some difficulty was experienced with the right broad ligament, which was shortened and inelastic, but no evidence of growth could be detected outside the uterus proper. The convalescence was somewhat slow owing to the patient's anæmic condition, but she left the hospital on June 1st.

The patient has been seen twice since the operation, and no return of the disease can be detected.

The specimen itself is a curious one. A drawing made of the uterus at the time is appended, and microscopical sections were shown of the original piece of growth removed from the cervix, the growth near the os internum, and the co-existing growth at the fundus.

The unusual points in the case seem to be :

(*a*) The rounded localised and almost encapsuled appearance of the main growth near the os internum. To the naked eye this appears to resemble a disintegrating fibroid, or possibly a sarcoma.

(*b*) Co-existing nodules of growth in the fundus which are quite distinct from that near the os internum, the endometrium being quite normal in the lower portion of the cavity of the uterus.

Microscopical examination shows that both growths are identical in structure, having the typical characters of a glandular or columnar-celled carcinoma. The specimen is preserved in the Museum of St. Bartholomew's Hospital. Dr. Herbert Williamson has kindly examined the speci-

men and microscopical sections, and agrees as to the characters of the malignant growths.

Some years ago Dr. Roberts showed a similar specimen before this Society of cancer of the cervix with numerous adenomatous growths in the fundus. As regards the specimen shown this evening Dr. Roberts is unable to say exactly where the primary growth originated, though he is inclined to think that from its situation the larger mass is a cervical rather than a corporeal tumour, and that there is no evidence to decide whether the growth in the fundus is secondary or not. The latter is therefore labelled co-existent rather than secondary.

The specimen was referred to the Pathology Committee for further report (see p. 331).

A CASE OF CÆSAREAN SECTION FOLLOWED BY REMOVAL OF A FIBROID WHICH FILLED THE PELVIC CAVITY.

By Dr. Henry Russell Andrews.

M. F—, aged 33, was seen in consultation on March 7th, 1906. She had had increasing difficulty in passing water for several days, culminating in complete retention two days before, two and a half pints of urine being drawn off by catheter. After the bladder had been emptied she had had frequency of micturition, but no difficulty.

The patient was a tall, well-built, healthy woman, who had been married five months. Menstruation had been regular all through 1905, but the last two periods had been missed, the last menstruation occurring in the first week of January.

Abdominal examination.—A softish swelling, slightly movable from side to side, was found in the hypogastrium,

rising up out of the pelvis to a point halfway between the pubes and umbilicus. The breasts showed signs of activity.

Vaginal examination.—The cervix, distinctly softened, was felt high up in front. The hollow of the sacrum was occupied by a hard, round swelling, which practically filled the pelvis.

Diagnosis.—Early pregnancy of about two months, the body of the uterus being perched on a fibroid which was probably cervical.

As retention had occurred so early, although the pregnant uterus was above the pelvic brim, it seemed that frequent catheterisation would probably be necessary as the pregnancy advanced; but, reasoning from cases of persistent retroversion of the pregnant uterus, it was thought possible that the bladder and urethra might gradually accommodate themselves to the presence of the tumour. If the tumour were removed immediately, the uterus would almost certainly have to be removed as well, and, in the unlikely event of the tumour being removed without the uterus, abortion would very probably occur. If, on the other hand, the pregnancy could go to term with the help of catheterisation, Cæsarean section would be necessary, followed by hysterectomy or myomectomy. I told the patient that the best thing to do was to wait until full term, if possible, rather than to operate at once and do away with all chance of her becoming a mother. She was rather anxious to have the tumour removed at once, even though the operation might involve removal of the uterus, but eventually agreed to wait for a time to see whether she had much discomfort from pressure and from catheterisation. Retention of urine occurred again on March 13th and 18th. On March 22nd she was admitted into the London Hospital, where Dr. Lewers kindly saw her with me. He said that although the fibroid was probably cervical, it might prove to be movable under an anæsthetic. The patient was anæsthetised accordingly, and it was found that the tumour could be pushed up easily for a short distance, so that, although it still filled the brim, it did not occupy much

of the cavity of the pelvis. A large ring pessary was inserted to keep the tumour as high up as possible. She returned home on March 27th. The tumour settled down into the pelvis again, but possibly not quite so deeply as before. During April and May there was occasional retention of urine, relieved by catheter. The patient found that micturition was easier if she assumed the knee-chest position before attempting to pass water. She took urotropin occasionally during April and May for a few days at a time to diminish the chance of cystitis. After the end of May she had no trouble with her water, and no discomfort of any sort that could be attributed to the fibroid. The ring was removed a little later.

The patient was readmitted to the London Hospital on October 10th, in excellent health and free from any unusual discomfort. The greatest circumference of the abdomen measured 41 ins. The child was lying in the second position of the breech, but the breech was high up above the brim, which was unoccupied by any fœtal part. In the brim a firm mass could be felt indistinctly. The cervix was out of reach, a large, hard, rounded mass filling up the pelvis. No attempt was made to push the tumour out of the pelvis, as it was evident that even if it could be pushed up above the brim it would still obstruct delivery. Dr. Lewers kindly saw the patient again, and agreed that Cæsarean section was necessary.

On October 11th, about four days before the expected date of labour, I operated, performing Cæsarean section. After extraction of the fœtus, placenta, and membranes the tumour was pulled out of the pelvic cavity, coming up with a "sucking" noise. It was found to be a sessile subperitoneal fibroid about the size of a cocoanut, growing from the left posterior quarter of the uterus just above the cervix. Its base of attachment was about four inches in diameter. No other fibroid could be seen, so I decided to remove the tumour and leave the uterus. An incision was made round the base and the tumour enucleated with ease. I thought that there was no communication between

the interior of the uterus and the myomectomy wound, but my assistant said that he was quite certain that I had opened the uterine cavity. However, this point was of no importance, as is shown by the after-history of most cases of Cæsarean section. There was fairly free bleeding from the myomectomy wound, easily checked by a few buried catgut sutures. After sewing up the Cæsarean section wound with two layers of interrupted sutures of chromicised catgut, I closed the myomectomy wound in the same way. The wounds were now of about equal length. The abdominal wound was then closed in the ordinary way. By the time the operation was over blood was issuing from the vagina, as seems to be usually the case when Cæsarean section is performed before the commencement of labour, the cervix having been dilated by the contractions of the body of the uterus.

The child, a male, weighing 8½ lb., was at first rather under the influence of the anæsthetic, chloroform, but cried lustily after a few hours. The mother made an uninterrupted recovery, and mother and child left the hospital on November 8th, both very well.

On section the fibroid was seen to be in a condition of necrobiosis, being red, rather homogeneous in consistence, and soft. Microscopical sections stained very badly.

I think that this case is of interest as showing the gradual toleration by the bladder and urethra of pressure which caused absolute retention of urine at first. There was probably more tension from upward stretching of the urethra than actual mechanical pressure. Obstruction to labour caused by a fibroid in the lower uterine segment usually necessitates hysterectomy; it is rarely possible to treat such a case by myomectomy, leaving a uterus which is still capable of performing all its natural functions.

Mr. Alban Doran admitted that in these cases of fibroid complicating pregnancy Cæsarean section was preferred by obstetricians of authority to myomectomy earlier in gestation. Yet, had the latter operation been performed in Dr. Russell Andrews's case, the chances of abortion would not have been

high, the patient would have been spared several months of discomfort, and the uterus would have borne but one wound instead of two.

Dr. Arthur Giles remarked that Dr. Andrews' case was of special interest in view of Mr. Doran's. He thought that Dr. Andrews was greatly to be congratulated on his management of the case; but the line of treatment that he adopted depended for its safety on the possibility of keeping the patient under observation, for otherwise serious trouble might threaten at the time of labour. He recalled a case of his own that had made a deep impression on him. The patient entered upon labour without any abnormality being suspected; her medical attendant found that there was some obstruction and performed podalic version, and then, finding that he could not extract, made further examination and found a tumour behind the cervix; he therefore sent the patient into hospital. When he (Dr. Giles) saw her the child had been dead about two hours, but it was not possible to extract it alive or dead, because the hard tumour left very little space. He did a Cæsarean hysterectomy and removed also a fibroid firmly adherent in the hollow of the sacrum. Had this patient been operated upon early in her pregnancy, it might have been possible to not only conserve the uterus, but also save the child. He thought they would all agree that a fibroid situated in the upper zone of the uterus would generally be best left until after delivery, and that interference should usually be resorted to when the tumour seemed likely to obstruct labour. He had seen some three or four cases of fibroids in the upper part of the uterus complicating pregnancy, and had judged that the patients could be allowed to go through their pregnancy undisturbed, and he had operated some weeks after labour.

Dr. Herbert Spencer asked whether it would have been practicable to have performed myomectomy without Cæsarean section. He had himself removed a seventeen-pound myoma from the broad ligament a few hours before delivery with success in the case of the mother, the child being apparently dead at the time of the operation. Probably in Dr. Andrews's case the smaller size and the position of the tumour would have caused difficulty. He thought the treatment of the case had been most judicious.

Dr. Andrews, in reply, said that he had not performed myomectomy when he first saw the patient because he thought that the size and low position of the tumour would render it impossible to remove the fibroid without removing the uterus itself. The tumour must have been twice as big as the uterus at that time. If myomectomy had been performed at two months, he thought that abortion would have followed. The tumour was larger and the pregnancy earlier than in Mr. Alban Doran's case.

The fact that the patient lived less than a mile away from the hospital, so that she could be kept under close observation during pregnancy, had weighed with him in advising the patient to put up with her discomfort if possible. To have performed myomectomy at full term or during labour would have been impossible without making an abdominal incision from the pubes to the ensiform cartilage, as it would have been necessary to turn the uterus completely out of the abdomen before the fibroid could have been removed. Again, he would have been very unwilling to make a large wound in the lower uterine segment at the beginning of labour. Dr. Andrews wished to thank Mr. Alban Doran and Dr. Giles and Dr. Spencer for their kind remarks about his case.

THE PRESENT POSITION OF EXTERNAL VERSION IN OBSTETRICS WITH A SUGGESTION OF A NEW METHOD OF PERFORMING IT.

By William Rivers Pollock, M.D.Cantab., F.R.C.P.,

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(Received October 17th, 1906.)

(*Abstract.*)

Its present position—

On the Continent; in America; in England.

The time for performing it.

The difficulties to be overcome to make the operation more generally useful.

Fundal external version.

The way to perform it.

Its advantages.

Comparing it with

Bipolar version.

Internal version.

Its disadvantages.

The position of external version in obstetrics at the present time is not very satisfactory. Its uses and the circumstances under which it can be performed are both strictly limited. Most of the authors—indeed, I may say all the authors of the recent text-books in midwifery—take the view that external version is only applicable under two conditions—firstly, when the child is lying

transversely or obliquely; secondly, when the child is found presenting by the complete breech, early in the first stage of labour, with the membranes unruptured. They all agree, too, in the fact that the operation is by no means easy. I want to call attention, then, in the first place to three points in the operation:

(1) To show how limited its present use is.

(2) To show the difficulty and even impossibility of performing it at times, though under apparently favourable circumstances.

(3) To point out the manner of performing the operation described by authors, especially with regard to the position of the mother.

Wigand, of Hamburg, was the physician who chiefly brought the operation into prominence in earlier days. He wrote on the subject in 1807, but his work was little known till 1843, when it was brought into prominence by Hubert, of Louvain. In 1815, perhaps it should also be mentioned, Mattei helped to bring the subject forward.

Indications.—The chief indications, and, according to most authorities, the only indications are (1) The oblique or transverse lie. (2) A breech presentation. In the oblique or transverse lie it is generally approved, chiefly because it is a simple operation which can be safely tried even if unsuccessful, and saves the patient if successful from a far more serious operation later on. With regard to the second indication, there is by no means the same uniformity of opinion. Some authorities say that a breech presentation is a normal presentation and may, therefore, be left as such, and others say that though normal it is decidedly more serious for the child on account of the delivery of the after-coming head, and for the mother in that the labour lasts longer and more manipulations are necessary. I am certainly of opinion, as well as my colleagues at Queen Charlotte's Hospital, that when a breech can be converted into a vertex presentation this should be done. The arguments of those who oppose it are—(*a*) that it is often impossible; (*b*) that it is useless in multiparæ, for

labour takes place in them so easily owing to the laxity of the soft parts; (c) that it is impracticable in the majority of multiparæ on account of the resistance of the abdominal and uterine walls.

Pinard looks on breech presentation as an absolute indication for external version.

Budin and Tarnier say that it is a very valuable operation in breech cases, but its indications are limited: (1) by the frequent changes of position towards the end of pregnancy; (2) by the slightness of the risk run by the infant when the woman is placed in advantageous surroundings, as, for example, when the labour takes place in a lying-in hospital; (3) when the patients are attended by experienced accoucheurs; (4) by the difficulty in making the fœtus turn in certain primiparæ with very resistant abdominal walls; (5) by the difficulty of retaining the new position after turning from breech to vertex when there is excess of liquor amnii.

The time for performing it.—Wigand advised that the operation should not be undertaken till the woman was in labour, early in the first stage, with the membranes unruptured. This seems to me to be hardly the time to choose, though better then than not at all. We know the danger of the waters breaking early in a breech case, because the breech does not completely fill the os as the vertex does. Also these manipulations are more easily carried out when the child is not quite at full term. This is a better time than earlier, for if done at the thirtieth week, say, the child is so small that it will very probably revert to a breech presentation, do what we will. In addition to this we know that the child moves about freely in the liquor amnii till nearly full term, and thus we give the child the chance of possibly turning itself without our aid.

Again I quote from Budin and Tarnier: "When the breech is movable at the brim the same manœuvres are carried on as for a transverse presentation. But the operation is a little more troublesome when the breech is

fixed in the brim, and especially when the legs are extended." In such a case one must start by disengaging the breech. The hands should be applied on either side of the breech of the child and by pushing alternately on either side endeavour to disengage it. It is not always possible. Under these circumstances Pinard recommends the introduction of a finger in the vagina and to push upwards and to one side of the pelvis of the mother the lower pole of the child. But even this can fail. In one case, when, after repeated efforts, we failed, chloroform was administered and the whole hand was introduced into the vagina in order to push the breech out of the brim, while the other hand was placed on the abdomen and helped to disengage it. This manœuvre was effected and the turning of the child took place easily. Pinard advises in these circumstances the introduction of two fingers or the whole hand into the vagina; when, of course, the patient should be anæsthetised, especially if a primipara. They (Budin and Tarnier) call attention to another difficulty in the way of turning the child—namely when the head gets underneath the false ribs or liver, making it difficult to get at it. One must then try to disengage it either by movements applied to the breech, they say, or by placing the woman on her side or in the genu-pectoral position. Sometimes in primiparæ the difficulties are insurmountable. I think I am right in saying that when two fingers or the whole hand are introduced into the vagina we pass away from what may legitimately be called "external version."

I have now shown—(1) how limited is the present use of external version; (2) how difficult and even impossible it is to perform it at times, even under apparently favourable circumstances.

Now we pass on to consider the third point in the operation to which I wish to call attention, viz. (3) the manner in which the operation is directed to be performed, especially with regard to the position of the mother. To quote Winckel (1906): "The woman lies on her back in the

horizontal position, with the legs straight or slightly flexed and abducted. The head is moderately raised." There is a modification of this position, which was first pointed out by Wigand, of Hamburg, to whom I have already referred, and that is, the placing of the woman on that side towards which the part to be made to present is directed. Spiegelberg mentions this lateral position in his book on 'Midwifery,' saying that he prefers the lateral position to any other.

We find the following statement in the last volume of the new edition of Winckel's work (1906): "External version is an important and valuable addition to our scientific obstetrical methods and should be employed more frequently than it is."

In America we find the works on midwifery state that the woman should lie on her back for this operation, with the knees flexed and separated.

Dr. Garrigues speaks somewhat disparagingly of the operation altogether, and says: "To substitute a head presentation for a breech presentation is hardly possible."

In Morris and Dickinson's work the horizontal dorsal decubitus is described; they recommend that the head and shoulders be moderately raised.

Dr. Hirst, of Philadelphia, also mentions this treatment and its uses, and says: "This method, while successful in a fair proportion of cases, requires often an expert's skill, the preservation of the membranes, thin, flexible, uterine and abdominal walls, and non-irritable muscles."

In all our English text-books the patient is made to lie on her back with the knees drawn up.

Dr. Dakin says: "It is useful when the hands have been arranged on the fœtus to place the woman on the side towards which the head lies, so that the action of gravity may help to bring the breech over."

I would now ask, From what do the real difficulties of the operation arise? Certainly from want of laxity of the abdominal muscles; certainly from the fact that the patient may strain and resist; but more important than

either of these causes is the fact that the lower pole of the child becomes engaged in the brim of the pelvis, from which position in not a few cases it is almost impossible to dislodge it.

This is especially the case in incomplete breech presentations, where, owing to the extension of the thighs on the body and the legs on the thighs, the podalic or anal end of the child fits most readily into the pelvis, and so much so that in some cases it may be found lying nearly on the perinæum of the mother. The rigidity of the muscles of the abdominal wall and uterus can, if necessary, be relaxed by anæsthesia, but when the muscles are relaxed the presenting part still remains in some cases immovable low down in the pelvis, as in the case mentioned by Budin and Tarnier.

The method I am now about to describe I propose to call "fundal external version."

It is, of course, an assistance to have the bladder empty and the rectum unloaded, but this is not an absolute necessity. The all-important point is the position of the patient. It may be sufficient to place the patient in the Trendelenberg position, and this should first be tried. The easiest way to enable the patient to assume this attitude is the method described by Dr. Herman in his work on 'Difficult Labour.' "Place on the bed a chair resting on its top rail and the front of its seat, having first pinned a towel over its legs. The patient is then placed on the back of the chair, her knees being supported by the towel. In this position the fundus becomes the lowest part of the uterus." If this does not produce the desired effect, the attendant must stand on the patient's bed, and, grasping her by the ankles, lift her up so as to raise the thighs and pelvis till the uterus is nearly vertical, with the cervix uppermost, the fundus below. It will be obvious that anæsthesia will be of great advantage in carrying out these manipulations, though not by any means always absolutely necessary. If two or three folds of blanket are wrapped round the patient from the symphysis pubis

to her feet, it will avoid needless exposure and keep the patient warm.

The child will now fall immediately to the fundus, and will remain clear of the pelvic brim. Now place the right hand over the lower pole of the child to prevent it from again becoming lodged in the pelvic brim. The patient can be placed flat on her back or on her side, when the ordinary methods of external version may be employed. Definite and energetic movements with the hands are far more likely to be successful in altering the position of the child than gentle pushes, though in some cases the latter are quite sufficient. The most satisfactory position into which to get the child is the transverse lie, and to change this position into the cephalic or podalic lie, as the operator may think best, moving the child in a horizontal plane. In some cases it is difficult to get the child to move in this plane, especially when the uterine walls are imperfectly relaxed or the child large ; then efforts may be made to move the child in a vertico-horizontal plane. When in the position required the child may be fixed with pads and bandages, if thought desirable to do so.

It is a simple, harmless method of procedure, in some cases exceedingly easy to carry out, and incurs no risk whatever of sepsis. The first case in which I tried it struck me very much. I was examining a young primipara about four weeks before labour was due, and found the child lying as a breech presentation with the legs extended. An anæsthetic was administered as soon as the legs and the pelvis were raised right up ; the child fell almost like a stone to the fundus. The child was small, and there was a good deal of liquor amnii, which made the experiment more striking. The mere fact that the breech fits so readily into the pelvis means that it will equally readily leave it in the presence of favourable circumstances.

May I compare fundal external version favourably or unfavourably with bipolar version ? I am inclined to think, very favourably.

Those who have performed bipolar version most frequently best know the extreme difficulties of the operation at times, and how protracted the manipulations may be.

They know, too, the considerable hæmorrhage that occurs during the process of turning the child in a case of placenta prævia, where the manipulations of the internal fingers must of necessity to a greater or less extent separate the placenta, situated, as it is, at the lower pole of the uterus, and thereby considerably increase the hæmorrhage. In performing fundal external version the patient is, during the dislodgment of the child, in the best attitude for sustaining shock, and when the podalic end of the child has reached the lower zone of the uterus, the foot can be readily seized and brought down after the membranes have been ruptured. Again, if the membranes are already ruptured, the patient, if kept in the vertical or more comfortable Trendelenberg attitude, is put in the best position for retaining the liquor amnii, the presence of which is so essential to facilitate the manipulations carried on by the hands externally through the abdominal walls. If the liquor amnii is small in amount, the patient may again by this method be kept in a position in which the fundal zone is the lowest; the liquor amnii will at once gravitate to the fundus and remain there, and by its presence considerably aid the necessary manipulations. Again, is it internal version we wish to perform, when the whole hand and part of the arm are carried into the uterine cavity, with danger of sepsis? Whenever it can be done perform fundal external version, and having brought the podatic pole of the fœtus over the os uteri, rupture the membranes, and seize a leg, which is easily brought down into the vagina.

The disadvantages and dangers.—The dangers, we may say, are *nil* if the manipulations are carried on as they should be. I have already had one case where in my opinion the labour was brought on by this operation. The legs were extended, the child was lying deep down in the pelvis. There was a fair amount of liquor amnii: the child

was small, but so was the mother. On holding the mother up by the feet the child fell readily to the fundus, and with a certain amount of force. Version was completed, but within forty-eight hours labour came on. The operation took place just about four weeks from term, which may possibly account for the oncoming of labour, for it is generally agreed amongst obstetricians that the uterus is more irritable at the menstrual epochs during pregnancy. I am afraid my experience is not sufficiently extensive to speak definitely, but I am inclined to think that this operation may occasionally bring on labour. Probably, therefore, it would be a good plan to avoid performing fundal external tension at the time of a menstrual epoch. I cannot conclude without thanking Dr. Williamson and Dr. Longridge for kindly helping me in looking up the literature of external version.

	No. of child.	How far advanced in pregnancy.	Position of child.	Normal position.	Fundal version.	Chloroform.
1. Ellen D— .	1	36 weeks	R.S.A.	Failed	Success	—
2. Mrs. W— .	2	28 „	Breech	„	„	—
3. Mrs. F— .	1	30 „	R.S.A.	„	„	1
4. Minnie H—	1	36 „	Breech	„	„	—
5. Mrs. D— .	1	36½ „	R.S.A.	„	„	—
6. Emily H—	1	34½ „	„	„	„	—
7. Mrs. M— .	1	34½ „	L.S.A.	„	„	—
8. Mrs. K— .	2	36½ „	R.S.P.	„	„	—
9. Mrs. F— .	4	36 „	Breech	„	„	1
10. Edith C— .	1	38 „	L.S.P.	„	„	1
11. Mrs. G— .	1	34 „	Breech	„	„	1
12. Florence W—	2	36 „	R.S.P.	„	„	—
13. D. M— .	1	36 „	Breech with extended legs	„	„	1
14. Alice H— .	4	36 „	R.S.A.	„	„	1
15. Clara L— .	7	31 „	Breech	„	„	1
16. Emily C— .	1	38 „ (late)	R.S.P.	„	„	—

Dr. Champneys said that all would be glad to have new methods of dislodging the fœtus from the pelvis in the performance of external version. The method adopted with success by Dr. Pollock seemed to him to require some explanation, and

also testing against other methods. As regards the first, it struck the speaker that the position of the legs of the patient was not essential; it was the position of the trunk, and especially of the pelvis, that mattered. In the erect position the brim of the pelvis was inclined to the horizon at an angle of some 60°. In the inverted position it would still be inclined at that angle to the horizon. In the genu-pectoral position, however, if properly arranged, the brim of the pelvis pointed vertically downwards. He (the speaker) wanted to know, under these circumstances, why the inverted position (suspension by the legs) was superior to the genu-pectoral position. In the second place, he would like to know whether it was, as a fact, superior to that position. To do this it would be necessary to test one against the other, and even against the Trendelenberg position. He would like a series of cases in which the method of suspension by the legs was successful after the other two methods had failed.

Dr. Herman asked Dr. Pollock in how many of his cases the Trendelenberg position alone had not been enough, and he had had to have the patients raised by the heels. It appeared to him that in the Trendelenberg position the long axis of the uterus was horizontal; and therefore he should not have expected it to accomplish what Dr. Pollock wished to bring about.

Dr. Herbert Spencer said that the subject of external cephalic version of breech cases had interested him for many years. He had published a paper on the subject five years ago in the 'British Medical Journal' in which he recommended the operation towards the end of pregnancy and especially at seven and a half months. The operation at that period was usually easy, and could be performed sometimes in a few seconds with the patient in the dorsal position; after this date, especially in primiparæ, the operation became increasingly difficult and was usually impossible at term or during labour. The raising of the pelvis certainly seemed from the remarkable series of cases in the table to facilitate the operation of external version; but he (Dr. Spencer) noted that none of the patients were at term, and he asked the author whether he believed the same results were obtainable at term or in labour, as it was then that the real difficulty occurred. Dr. Spencer did not think that the author's method could be said to be altogether new. Elevation of the pelvis and legs and cephalic version during labour were recommended by Hippocrates, who advised the employment of two men for the purpose of raising the patient, one for each foot. And in the sixteenth century shaking or rolling movements (*volutatio*) to turn the child while the patient was in this position were recommended by Scipio Mercurio, Eucharius Rhodion, Rueff, and Raynalde. In 1830 F. B. Osiander, speaking of the cephalic version (the oldest kind of version in mid-

wifery) as described in the Hippocratic writings, says that the woman was raised up by the feet and shaken, or she was bound to a bedstead, the head-end of which was stuck in the ground. And in 1883 Charpentier, speaking of the more or less barbarous procedures employed by the Japanese and Mexicans to bring the child to present by the head, wrote: "Amongst the Mexicans the women after the seventh month are subjected to an external massage to force the fœtus to present by the head, and if this procedure does not succeed they are turned upside down (*on les renverse*) with the head below, are seized by the legs, and shaken until the child presents by the head." Dr. Spencer agreed with Dr. Champneys as to the direction of the axis of the uterus. The axis was not vertical when the patient was held up by the feet or raised in the Trendelenberg position; it became vertical in the knee-chest position, which also was a very old position for version; the direction of the uterine axis was dependent on the position of the patient's body and was quite independent of the condition of the abdominal wall. Dr. Spencer thought it would be very laborious work holding up a heavy woman by the ankles, and the necessity for assistants and the unusual position would, he thought, militate somewhat against the method in private practice. He asked the author whether in premature cases the same advantages might not be obtained by the Trendelenberg or the knee-chest position. Dr. Spencer noticed that in the case described in the paper (a young primipara with a small child and a good deal of liquor amnii about four weeks before labour was due) an anæsthetic was administered, and as soon as the legs and the pelvis were raised right up "the child fell almost like a stone to the fundus." This description would not apply to an ordinary case at term with a normal amount of liquor amnii, for the child in such cases is in contact with, or but slightly separated from, the fundus. It appeared to him that in such a case the only way in which the lower pole of the fœtus could rise out of the pelvis was by stretching or falling of the uterus in the raised position, and it appeared difficult to understand how this would occur to any considerable extent in a patient pregnant or in labour at term. He hoped the author would be able to furnish them with information on this important point.

Dr. Williamson said that he had employed this method in a modified form. Dr. Pollock had suggested it to him some months ago with the request that he would try it if an opportunity occurred. Six weeks ago he was asked to see a lady in the ninth month of her first pregnancy, because a breech presentation had been diagnosed. He attempted the operation of external version with the patient in the dorsal decubitus; the attempt failed because the presenting part could not be disengaged from the pelvis. The patient was then placed in the Trendelenberg

position over the back of a chair as suggested by Dr. Herman in his book on 'Difficult Labour'; in this position version was performed easily. Labour ensued a fortnight later, and the child presented by the vertex. In answer to Dr. Spencer's criticism, he could say that pelvis and child were of normal size and there was no excess of liquor amnii, but he distinctly felt the fœtus sink down, so that the buttocks were clear of the pelvic brim.

Dr. C. Nepean Longridge stated that during six months it was his good fortune to examine the primigravidæ who came to Queen Charlotte's Hospital for examination. He had turned numerous breech cases, and had employed the Trendelenberg position on three occasions. In cases where the liquor amnii had drained away he asked if the position advocated by Dr. Pollock would not allow of artificial liquor amnii being poured into the uterus and so facilitate the manœuvres of version?

Dr. Pollock replied and said that he had tried the genupectoral position in one case, the last of the series, as had been suggested to him by Dr. Champneys, but the lower pole of the child did not in that attitude move out of the pelvis. Moreover it was most difficult in the position to get at the child to push it towards the fundus, as one could easily do in the vertical or Trendelenberg position when the abdomen was freely exposed. He said that he thought the genupectoral position failed because a vertical line drawn from the front of the sacrum, where the cervix would normally lie, to the anterior abdominal wall would at most only measure 6 in., unless the abdominal walls were very relaxed. The uterus at full term measures 12 in., and therefore the fundus could not fall into the vertical position. Dr. Pollock was interested to hear how old was the method of shifting the mother's attitude in the hope of changing the position of the child. In the fifteen cases reported there was no tendency for the child to revert to a breech presentation; if this tendency existed a pad on either side of the uterus and a binder would be of use. Dr. Pollock said he was much interested to hear that Dr. Williamson had observed in his case the same falling of the child when the fundus was lowered as had been described in the paper.

DECEMBER 5TH, 1906.

W. R. DAKIN, M.D., President, in the Chair.

Present—43 Fellows and 4 visitors.

Books were presented by Dr. H. Russell Andrews and by the Clinical Society.

Douglas Drew, B.S., F.R.C.S., was admitted a Fellow of the Society.

Albert Richard Henchley, M.D. (Canterbury), and Eric E. Young, M.S. (Stoke-on-Trent) were declared admitted.

The following gentlemen were elected Fellows of the Society: Thomas Reginald St.Johnston, M.R.C.S., L.R.C.P.; Eardley L. Holland, M.B., B.S.Lond., F.R.C.S.Eng.

The following candidates were proposed for election: Percy Cecil Parker Ingram, M.B., B.S.Lond.; Herman Stedman, M.D.Cincinnati, F.R.C.S.Edin.

Report of the Pathology Committee on Dr. C. Hubert Roberts' Specimen of a Curious Case of Cancer of the Uterus (*see p.* 311).

WE have examined this specimen and the microscopic sections prepared from it, and agree with the exhibitor

that both growths in the uterus are cancer and identical in structure for the type of columnar-celled carcinoma. The lower and larger growth lies at the os internum, invading the upper part of the cervix and the lower part of the body of the uterus in such a way as to make it impossible to decide whether the growth was cervical or corporeal in origin.

(*Signed*) C. Hubert Roberts.
Corrie Keep.
W. S. A. Griffith, *Chairman.*

CALCIFIED OVARIAN FIBROMA.

Shown by Dr. Handfield-Jones.

Dr. Handfield-Jones showed a specimen of ovarian fibroma. The tumour weighed about 7 lb., and was removed from a young girl, aged 19.

During the last two years the patient had noticed a steady increase in the size of her abdomen, but her general health had remained fairly good. Menstruation was free, but not excessive or painful. The most remarkable point about the tumour was the degree to which calcification had advanced. It was impossible to cut the tumour with a knife, and it was necessary to employ a saw to divide it.

Sections had been obtained for microscopical examination by soaking a small portion in acetic acid, and examination of these slides showed the growth to be a pure fibroma. When the peritoneal cavity was opened three pints of ascitic fluid were found to be present. The girl had made an easy convalescence, and there had been no sign of any recurrence of growth.

THREE CASES OF MYOMATOUS UTERI BLEEDING AFTER THE MENOPAUSE.

(With Plate XXVII.)

By Dr. Herbert Spencer.

Dr. Herbert Spencer showed three myomatous uteri removed by total abdominal hysterectomy for hæmorrhage occurring eighteen years, seven years, and four years after the menopause.

Case 1 (see Plate XXVII).—E. B—, aged 62, single, was seen at University College Hospital on December 3rd, 1904. A swelling had been noticed in the abdomen for many years. Menstruation had been regular and painless up to the age of forty-four, when the menopause occurred. Six years ago the patient had an attack of hæmorrhage and had several times during the last seven years lost a "spot" of blood. She had during the last month lost a large quantity of brownish blood, which had rendered her very anæmic. There was a uterine tumour extending in the abdomen up to an inch and a half above the umbilicus.

The diagnosis was uterine fibroid with submucous growth and endometritis. The diagnosis of submucous fibroid was based on the large quantity of brown blood lost, which pointed to the existence of a large uterine cavity. Cancer was thought not to be present, as this blood was not offensive.

The uterus was removed by total abdominal hysterectomy (Doyen's method) on December 13th, 1904. The patient recovered well, although she had slight left-sided parotitis, which subsided without suppuration. She was seen on July 12th, 1906, and was quite well and free from pain.

The uterus (see Plate XXVII) weighed 3 lb. 6 oz., and contained a subperitoneal fibroid in the posterior wall

1·6 cm. in diameter and two interstitial fibroids in the upper anterior cervical wall, the larger being only of the size of a pea. The uterus was mainly enlarged by a large submucous myoma 11·5 cm. by 12 cm. in diameter. This submucous tumour was in a state of marked mucous degeneration, showing irregular cavities all over its cut surface. The mucous membrane was perfectly smooth and contained no growth; it was thin and atrophied, and appeared as a mere line on section. The surface was deeply stained in places, probably by imbibition of blood from the cavity. The cavity of the body was distended by blood to the extent of 2 cm. on sagittal section.

Under the microscope the mucous membrane was represented by a thin, dense layer of cells with oval and spindle-shaped nuclei. The surface epithelium was cubical or flattened, and in places had disappeared. Only a few glands (two in a quarter of an inch of mucous membrane) remained, close beneath the epithelium; some of these glands had their long axis running parallel with the surface. The cells lining these glands were columnar or cubical. On making serial sections of a small, dark spot in the mucosa it was found that the colour was due to blood contained within a gland, and probably forced into it by the intra-uterine pressure.

Case 2.—E. W—, aged 50, single, was admitted to University College Hospital on June 5th, 1905, complaining of severe pain above the pubes, which occurred in unbearable paroxysms. There was also a yellow discharge from the uterus, sometimes offensive and stained with blood. Those symptoms had been present for twelve months. Menstruation commenced at sixteen and ceased at forty-six. It was always regular, not excessive, and was painful during the first day of the period.

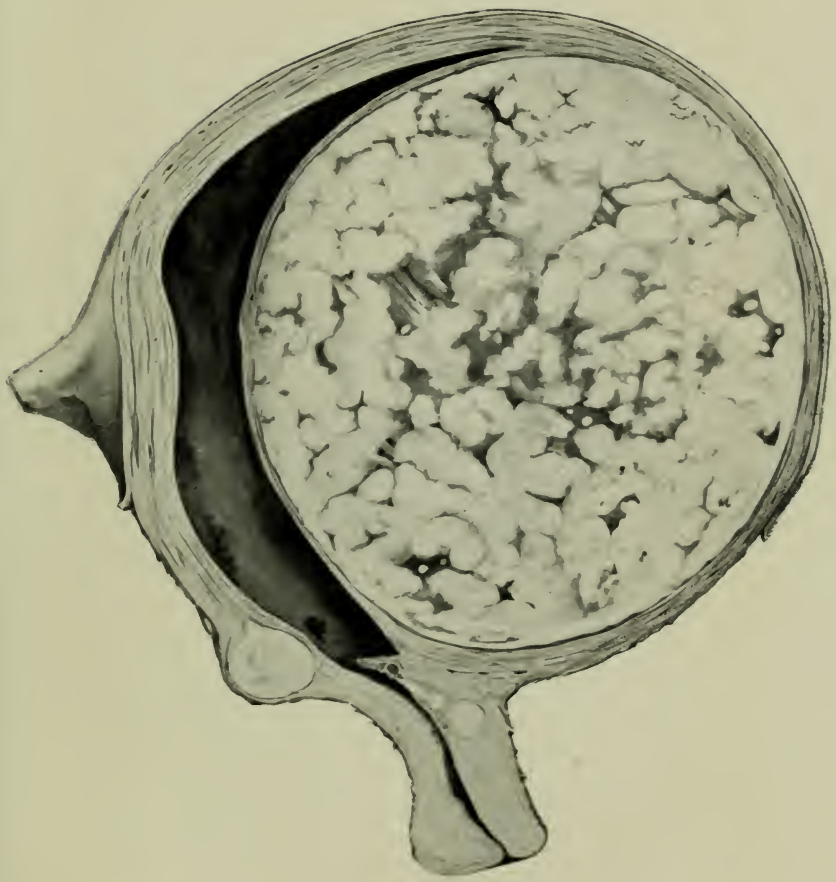
On examination the vagina was very narrow and the uterus was of twice its normal bulk. The diagnosis was carcinoma of the body of the uterus.

At the operation, on June 13th, 1905, the cervix was

DESCRIPTION OF PLATE XXVII.

Illustrating Dr. Herbert Spencer's three cases of Fibro-myomatous Uteri with Hæmorrhage after the Menopause. (Case 1 : two-thirds natural size.)

The cervix contains two small fibroids in the upper part of the anterior wall, and a larger one in the posterior wall of the lower segment. A large sessile submucous tumour is seen in the body in an advanced stage of mucous degeneration. The cavity is distended (by blood-clot, which has been removed). The endometrium is atrophied, and shows black staining in patches. Some of the staining is due to imbibition of blood contained in the cavity of the body; but one small stained patch on microscopic section showed blood in a dilated gland cavity, the long axis of which was parallel to the surface of the endometrium.



Illustrating Dr. HERBERT SPENCER'S three Cases of Fibro-myomatous Uteri with Hæmorrhage after the Menopause (Case 1).

Adlard & Son, Impr.

closed by a stout ligature tied round it in a groove made by the galvano-cautery and also by means of a strong volsella. The uterus was then removed by the abdomen and the peritoneum was closed by a purse-string suture. The patient recovered well.

The uterus was slightly enlarged and its walls slightly increased in thickness. In the right side of the lower segment was an interstitial fibroid of the size of a walnut, not seen in the sagittal section. In the cavity of the body, especially on the posterior wall above and the anterior wall below, was seen a fungating growth showing a spongy surface on section owing to the presence of small cysts. The base-line of the growth was even; the growth was 5 mm. thick.

Under the microscope the mucous membrane consisted of a large overgrowth of glands lined with columnar epithelium. The interglandular tissue, which was abundant, consisted of densely-packed cells, with spindle-shaped and oval nuclei; in the deeper parts it was infiltrated with small round cells. The surface epithelium of the mucous membrane was columnar or cubical. The glands near the surface were not dilated, or but slightly so; the columnar epithelium of these glands stained darkly and indistinctly; the deeper parts of the glands were dilated to form small cysts; the columnar epithelium in these was desquamating; probably this desquamation was due to the specimen's having been kept uncut in formalin solution. There appeared to be a distinct line of demarcation between the endometrium and the muscular tissue of the uterine wall, which was not invaded by the glands. There was no proliferation of the epithelium of the glands. The endometrium, therefore, was hypertrophied and cystic.

Case 3.—M. C—, aged 60, single, was admitted to University College Hospital on July 20th, 1906, for abdominal pains and uterine hæmorrhage of a fortnight's duration. The menopause occurred six or seven years ago. In several years the patient had occasionally

noticed brownish stains on her linen, which she thought came from the vagina. Menstruation commenced at 15; it had always been excessive and accompanied with severe dysmenorrhœa.

The uterus was felt to be of the size of the pregnant organ at 2½ months. A hard body, larger than an ovary, was felt attached to the uterus on the right side.

The diagnosis was cancer complicating fibroids, or possibly with a secondary deposit in the right ovary. At the operation on July 24th, 1906, a strong ligature was tied around the cervix in a circular groove cut round the cervix with the galvano-cautery. The uterus and appendages were then removed by the abdomen by a modified Doyen's operation. The patient recovered well, and left the hospital on August 21st, 1906.

The uterus was of the size of a small fist, and contained a large number of fibroids, twelve of which could be counted on the median sagittal section. In the middle of this section was a sub-mucous tumour, measuring 5 cm. by 2·5 cm., attached by a pedicle 1 cm. thick to the anterior wall. This growth was surrounded by blood-clot, which filled the cavity of the body. In the right side of the lower segment was a somewhat larger interstitial growth, displacing the lower corporeal canal to the left. The blood-vessels seen on the median section were full of blood, and slight hæmorrhage had occurred into the capsule of two of the interstitial tumours.

The right appendages were normal; the left tube was distended by blood to the size of a little finger. This blood was probably reflex blood from the uterine cavity; the uterine end of the tube, however, was not distended; the wall of the distended part was thin.

The mucous membrane of the body was smooth, except for adherent blood. There was no growth in the endometrium, which was very thin, and existed only as a line to the naked eye. At one spot the endometrium was a little raised, and here a section showed the epithelium to be intact, cubical in shape, and raised over slight

papillary projections of the stroma. The stroma of the mucous membrane consisted of spindle-cells which had undergone hyaline degeneration. The glands were few in number, and some of them were dilated into cysts. The epithelium of the glands was columnar, cubical, or flattened according to the size of the lumen of the glands. The mucous membrane at the thickened part was less than 1 mm. in thickness; elsewhere it was extremely atrophied, consisting of little but the epithelial layer.

Dr. Spencer said he thought that these cases were of some interest, as hæmorrhage after the menopause from myomatous uteri was often indicative of the development of cancer in the endometrium. In two of the cases shown (with sub-mucous myomata) the mucous membrane was atrophied; in the third it was hypertrophied.

Hysterectomy seemed a severe operation for the condition revealed after removal of the uterus, but the difficulty of exploring myomatous uteri long after the menopause was very great, and there was a good chance that cancer, if present, might be overlooked in the enlarged tortuous cavity. He thought, therefore, that unless the hæmorrhage was clearly due to a polypus, the myomatous uterus bleeding after the menopause should be removed.

Dr. H. R. Andrews said that he had recently operated on a patient aged 60, who had had hæmorrhage severe enough to cause grave anæmia three years after the menopause. The uterus contained several fibroids, one of them bulging into the uterine cavity, but there was no thickening of the endometrium and no evident explanation for the bleeding.

Dr. Eden said that he had also met with cases of post-climacteric hæmorrhage associated with atrophy of the endometrium, and asked Dr. Spencer if he had any suggestion to offer as to the causation of the bleeding under such circumstances. In earlier life fibroid tumours were commonly associated with hypertrophy of the mucous membrane, and hæmorrhage was usually attributed in such cases to the abnormal condition of the endometrium. But this view was difficult to reconcile with those cases which showed that hæmorrhage might equally well occur from an atrophied mucosa.

Dr. Spencer, in reply, said he thought it was possible that the presence of the fibroids interfered with the return of venous

blood and so produced congestion of the mucosa. There was actual effusion of blood around several of the tumours in one of the specimens shown.

LITHOPÆDION.

Shown by Dr. W. J. Potts.

(Introduced by Dr. Stevens.)

The specimen was obtained from the body of a woman aged 83, who had been under treatment for senile dementia at the Bethnal Green Infirmary, and who died there on October 22nd, 1906. It was impossible during life, owing to the mental condition of the woman, to obtain an accurate clinical history of the case; but on her admission to the infirmary a freely movable tumour was felt on the right side of the abdomen, apparently connected with the uterus. This tumour was diagnosed as a calcified fibroid tumour of the uterus. At the *post-mortem* examination the tumour was found to be a true lithopædion; it lay in a cavity bounded in front by the abdominal wall, at the back and sides by fibrous adhesions. On the floor of this cavity were found the uterus and the left ovary and Fallopian tube. The lithopædion was connected with the remains of the right broad ligament, and no trace of the right ovary could be found. There was no calcareous deposit in the fibrous adhesions forming the cavity in which the lithopædion lay. The lithopædion was extremely hard and covered with small masses of calcareous deposit. The child was well developed and mature, the arms and legs being well formed and doubled in the usual fœtal position. There was no trace of the features of the child. There was nothing observed that could be identified as the placenta.

The specimen has been presented to the Pathological Museum, St. Mary's Hospital, London, W.

THE TREATMENT OF OVARIAN PROLAPSE BY SHORTENING THE OVARIAN LIGAMENT.

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(Received October 11th, 1906.)

(*Abstract.*)

The surgical treatment of ovarian prolapse has received little attention in comparison with that accorded to other pathological conditions affecting the female generative organs.

In this paper the author ventures to outline the several aspects from which he thinks this subject may best be considered, and more particularly brings before the Fellows of this Society the operative procedure which he has for some time past adopted in these cases.

Clinically, the cases of ovarian prolapse may be divided into three distinct groups, each of which is considered separately.

These groups are as follows:

(A) Primary ovarian prolapse uncomplicated with retroversion of the uterus, or disease of the appendage.

(B) Ovarian prolapse either secondary to or co-incident with retroversion of the uterus.

(C) Ovarian prolapse caused by or complicated with disease of the ovary or tube to which fixed retroversion of the uterus may or may not be added.

The operation advocated consists in pleating the ovarian ligament by means of a "gathering" stitch, which, beginning on the posterior aspect of the uterus just within the point of

origin of the ligament, terminates at its attachment to the ovary. The ligament by this means is not only shortened but thickened, and the ovary is brought up under the uterine cornu.

The application of the operation to the three groups of cases already defined is as follows:

Group A:

The operation is indicated in cases of primary ovarian prolapse associated with dyspareunia and chronic ovarian pain.

Group B:

A certain proportion of the cases included in this group are curable by pessaries, *i. e.* the replacement of the retroverted uterus restores the ovaries to their normal position.

In the remainder, in which, in spite of such replacement, the ovaries remain prolapsed, the author's operation is indicated, together with ventro-fixation or suspension of the uterus.

Attention is called to the fact that ventro-fixation of the uterus alone often causes the symptoms of ovarian prolapse to be accentuated, because the operation lifts the prolapsed ovaries off the pelvic floor, and causes an increased tension on their already weakened suspensory apparatus. Ventro-fixation lifts the ovaries from out the ovarian fossæ, and leaves them unnaturally exposed to the force of gravity.

For this reason it is advisable to shorten and strengthen the ovarian ligament as a routine practice when performing ventro-fixation or similar operations.

Group C:

Conservatism is urged in operations for "diseased appendages." Salpingectomy alone should be the operator's aim. Conserved ovaries, unless fixed in a position far removed from the diseased peritoneal bed in which they were lying, continue to give symptoms, and are liable to cystic degeneration. The author draws special attention to the liability of the uterus to become retroverted after operations for inflammatory tubal disease.

The procedure advocated is removal of the diseased tubes, ventro-fixation of the uterus, and shortening the ovarian ligaments after the method already described.

The following advantages are claimed:

1. The removal of the focus of the disease.
2. The conservation of the ovaries in a place far removed from the diseased pelvic peritoneum.
3. The avoidance of post-operative ovarian prolapse.
4. The avoidance of post-operative retroversion of the uterus.

THE surgical treatment of ovarian prolapse has received little attention in comparison with that accorded to other pathological conditions affecting the female generative organs.

In this paper I venture to outline the several aspects from which I think this subject may best be considered, and more particularly to bring before the Fellows of this Society the operative procedures which I have for some time past adopted in these cases.

Clinically, the cases of ovarian prolapse may be divided into three distinct groups, each of which I shall consider separately.

These groups are as follows:

(1) Primary ovarian prolapse uncomplicated with retroversion of the uterus, or disease of the appendage.

(2) Ovarian prolapse, either secondary to or coincident with retroversion of the uterus.

(3) Ovarian prolapse caused by or complicated with disease of the ovary or tube, to which fixed retroversion of the uterus may or may not be added.

GROUP 1.—PRIMARY OVARIAN PROLAPSE UNCOMPLICATED BY RETROVERSION OR DISEASE OF THE APPENDAGE.

This class of case is a comparatively small one. The condition is most commonly met with in parous women of a relaxed habit of tissue. The prolapsed condition of the ovaries is most probably the result of non-involution of the elongated ovarian ligament, and is frequently associated with a flaccid condition of the anterior abdominal

wall and a degree of enteroptosis. The patients are usually in poor health, anæmic, and thin. Occasionally, however, the same condition of ovarian prolapse is found in nulliparous girls.

The leading symptom in the married women who make up the bulk of this class is dyspareunia of an "internal" type.

These patients have to be questioned on this head, as they rarely volunteer the statement, although their marital infelicity is the principal trouble which has caused them to seek advice.

Besides this, there is invariably a complaint of chronic ovarian pain of a "dragging" character, but little relieved by posture and accentuated at the menstrual epoch to such a degree as to constitute a true ovarian dysmenorrhœa.

That such pain should be present is not surprising. As I have pointed out elsewhere,* Nature has evolved in the case of all the pedunculated organs some special device to prevent them dragging upon their neurovascular pedicle. Thus, the liver is suspended by the coronary ligament, the spleen by the sustentaculum lienis and phrenico-colic fold, the kidneys by the perinephric fascia, and the testicles by the coverings of the cord and the cremaster muscle.

The ovary is no exception to this rule. Examination of the healthy organ in the course of abdominal section shows us that it is slung between the ovarian ligament on the inner or uterine side and the ovarico-pelvic ligament on the outer or pelvic side. Both these structures present as tense, whitish-coloured ridges under the peritoneum of the back of the broad ligament.

The tissues constituting the hilum of the ovary are, on the contrary, markedly lax and soft, being protected from tension by the two ligaments I have described. Abnormal elongation of these two ligaments results in the weight of

* 'Edin. Med. Journ.,' December, 1902; 'Clinical Journal,' October, 1905.

the ovary being sustained by the soft tissues of the hilum, and as these are richly supplied with vessels and nerves the occurrence of more or less pain is to be expected.

Operations designed to increase the value of the ovarian suspensory apparatus might be applied to either the ovarico-pelvic ligament or the ovarian ligament. I consider that the latter is the best suited for such procedures, because it is impossible, in the case of the outer ligament, to obtain a sufficiently dense and unyielding tissue to act as a *point d'appui* from which to begin the process of shortening. Moreover, the close proximity of the ovarian vessels renders them liable to be pricked or constricted in such an undertaking. And lastly, it renders ventrofixation impossible.

The operation I have adopted in these cases is as follows: The uterus having been pulled up out of the wound, the ovary on one side is drawn up after it and held outwards from the side of the uterus, so as to put the ovarian ligament on the stretch. A fine, curved needle, threaded with No. 1 silk, such as is ordinarily used for intestinal anastomosis, is now entered horizontally through the back of the uterus, about one third of an inch within the point where the ovarian ligament is attached. The needle is made to include the peritoneum and a small thickness of the musculature, and is brought out again just within the point of attachment of the ovarian ligament. The thread is now tied, leaving the free end long.

The needle, still threaded, is now entered on the upper surface of the ovarian ligament, about one eighth of an inch from its free edge, and brought out a similar distance from this edge on its under surface. The point is now carried outwards along the under surface of the ligament, is then made to transfix it from its lower to its upper surface, and the thread pulled through. This is repeated two or three times until a "gathering" stitch has been run along the whole length of the ligament. The needle is now cut out, and the thread that it conveyed is tied to the free end belonging to the first tied knot.

As this second knot is tied what the sempstress calls a "gather" is formed of the ovarian ligament—that is to say, it is puckered in a series of short folds, and the uterine pole of the ovary is brought up under the cornua of the uterus just at the point where the ovarian ligament is given off.

The extent to which the ovarian ligament can be shortened by this manœuvre depends entirely on the distance from the side of the uterus at which the needle is finally brought out. Thus, all degrees of shortening can be effected. My usual practice has been to finally emerge the needle at the point where the ligament joins the ovary. The second ovary is treated similarly and the uterus returned.

It will now be found that both ovaries are lying immediately behind and below their corresponding uterine cornua, far removed from the pouch of Douglas, in which they were originally lying.

To illustrate the results of this operation I may cite the case of the first patient on whom I performed this operation. All the symptoms I have detailed were present in a marked degree, and marital intercourse had been unbearable for a long time. The operation immediately freed her, not only of her major trouble, but of the dragging ovarian pain of which she had long been a sufferer. On vaginal examination it is impossible to detect any abnormality, and there is a complete freedom from tenderness, whereas previously this form of examination had occasioned her much pain.

Group 2.—Ovarian Prolapse Secondary to or Coincident with Movable Retroversion of the Uterus.

This form of ovarian prolapse is much commoner than the last named group, because a certain amount of ovarian descent must of necessity follow retroversion of the uterus.

The symptoms associated with backward displacement

of the uterus probably very largely depend upon the consequent prolapse of the ovaries. Thus we notice that whilst the retroplaced body of the uterus is usually quite insensitive, much pain is evoked on pressure over the appendages, and the patient suffers from the same symptom as those already detailed in Group 1.

These cases can be divided into those in which reposition of the uterus restores the ovaries to their normal position and those in which in spite of such reposition the ovaries, on account of permanent elongation of their suspensory apparatus, remain behind and below the uterus.

The first type can be suitably treated by pessaries, whilst the second cannot, and some form of operative interference is necessitated.

It is not within the scope of this paper to discuss the various methods of operatively treating retroversion of the uterus, but I wish to emphasise this point, that where abnormal laxity of the ovarian suspensory apparatus coexists with retroversion, operations destined to bring the uterus forwards must be considered as incomplete unless some means are taken at the same time to procure increased support for the ovary. I am of opinion that the operations of ventro-fixation and suspension frequently make worse the ovarian pain suffered by the patients, because they elevate ovaries already deficient in normal ligamentous support from off the peritoneal floor on which they were lying, and leave them hanging freely suspended in the peritoneal cavity.

Even in those cases in which the ovarian ligaments are not elongated I am of opinion that similar means should be taken to increase their sustentative value when performing ventro-fixation or suspension, for I notice that these operations lift the ovaries into an abnormal position above the ovarian fossæ, and leave them exposed to the force of gravity, which, I believe, will sooner or later result in permanent elongation of the ovarian supports and prolapse of the ovaries.

I have had the opportunity of studying the after-histories of a considerable number of cases of ventro-fixation, and many of these patients suffer more or less from ovarian pain.

Still more distressing are those in which, after ventro-fixation or suspension has been performed, the ovaries remain prolapsed behind the uterus.

For this reason it is my practice to combine the operation of shortening the ovarian ligaments with that of ventro-fixation in all cases of retroversion that require operation.

The results of this operation have up to now been so good that I am encouraged to treat similar cases on the same lines in the future.

Group 3.—Ovarian Prolapse caused by or complicated with Chronic Disease of the Ovary or Tube to which Fixed Retroversion may or may not be added.

In this, the third and last group, the prolapse of the ovaries is secondary to or associated with pathological changes in the tube, the ovary itself, or both together.

The distension or thickening of the tube in salpingitis leads to a typical curl-like deformity which embraces the ovary in its concavity, and not infrequently carries it down with it towards the peritoneal floor of the pelvis. The ovary, surrounded by peritoneal adhesions, and, superficially at least, inflamed, becomes sooner or later the seat of follicular cyst-formation, and the increased weight accentuates the prolapse.

Fixed retroversion frequently complicates these conditions, and the cases constitute the ordinary "diseased appendages" so commonly met with.

It is not my purpose to discuss fully the possible methods of treatment which may be applied for the cure of the diseased appendage; but I take it that there can be no doubt that the operation of salpingo-oophorectomy is of

all treatments the one we should most seek to avoid. The removal of both ovaries in a young woman is a disaster second only to the disease for which they were necessarily removed. For this reason I would advocate most strongly early operation in cases of salpingitis, because when patients are dealt with in this stage the removal of the tubes alone can be easily effected, whilst later on so dense are the adhesions and so disorganised are the ovaries that the removal of the whole appendage is often forced upon the surgeon.

Where the ovaries are much diseased I still am strongly in favour of conservative measures whenever they can be effected, even at the risk of incurring a second operation. When ovaries have been conserved after removal of the tubes I look upon it as very important that we should prevent the return of these organs to the diseased peritoneal bed from which they have been separated. Re-adhesion will certainly result in the maintenance of the diseased conditions under which the ovary has been existing, and cystic disorganisation is to be expected.

Moreover, the peritoneal adhesions tend to draw the conserved organs downwards so that dyspareunia, chronic ovarian pain, and difficulty with defæcation are likely to be the sole outcome of our conservative measures.

There is another point to which I would venture to draw attention, namely the tendency of the uterus to become retroverted after operations for diseased appendages.

This, I believe, is principally due to the backward traction of peritoneal adhesions, but may also be due to the atrophy of the upper part of the broad ligaments that follows bilateral salpingo-oophorectomy.

However produced, the condition is a distressing one, the patient suffering from marital trouble, rectal and vesical symptoms, and chronic pelvic pain. Moreover, no surgeon is anxious to re-operate on these cases, knowing that in many of them the peritoneal shrinkage and adhesions preclude the possibility of successful ventrofixation or suspension.

It is from these considerations that I have arrived at my present operative treatment in cases of chronic diseased appendages. Having freed the appendages, I resect the diseased tubes. The ovaries are then examined, follicular cysts of obviously pathological formation are opened or portions of their walls excised, and the ovaries or portions of ovaries are then brought up under the uterine cornua by the operation I have described to you. The whole is concluded by ventrofixing the uterus by one or two fine silk sutures passing through the fascia and peritoneum of the parietes, and picking up a thin film of the uterine musculature at a point on the anterior wall very slightly below the origin of the round ligaments.

By these means I believe I secure several important points:

(1) The removal of the cause of the disorder—the inflamed tubes.

(2) The conservation of the ovaries in a position removed from the diseased area, in which, therefore, they stand the best chance of ultimate recovery.

(3) The avoidance of the possibility of post-operative ovarian prolapse.

(4) The avoidance of the possibility of post-operative retroversion.

Mrs. Boyd agreed with Dr. Bonney in advocating suspension of the ovary in some cases. She had drawn attention to the desirability of it in a paper on conservative surgery of the tubes and ovaries read before the British Medical Association at Ipswich in 1900. She had employed practically the same procedure as Dr. Bonney. She did not, however, think it was necessary as a routine practice in addition to ventrofixation, as in most cases the ovaries were restored with the uterus to a normal position by ventrofixation, just as in some other cases by a pessary. She fully agreed with Dr. Bonney that the surgery of the ovary should be as conservative as possible, but she differed from his opinion that the recurrence of cystic disease in the ovary, which she had unfortunately seen several times after resection of diseased ovaries, was due to re-adhesion of the ovary to the bed out of which it had been detached. She thought the recurrence of cystic disease was due rather to

pathological processes persisting in the ovary itself, which would not be prevented by suspending it elsewhere away from the part to which it was primarily adherent.

Dr. HERMAN quoted the abstract of Dr. Bonney's paper to the effect that "the surgical treatment of ovarian prolapse has received little attention." He (Dr. Herman) thought that it had received all the attention it deserved. He knew of no evidence that change in the position of a healthy ovary made it tender. Tenderness of the ovaries was generally a local manifestation of neurasthenia. He had watched patients with tender ovaries taken into hospital, there given the benefits of food, rest, and sleep, who had left the hospital with the ovaries in the same position as when they were admitted but no longer tender. He had treated patients with tender ovaries, had lost sight of them for many months or years, and then seen them again and found the ovaries in the old position, but no longer tender.

Dr. BLACKER thought that these cases were of importance since the condition was often a source of great distress to the patients. At the same time, he quite agreed with Dr. Herman that operative treatment was seldom called for. One of the best means of treating such cases was the occurrence of pregnancy. In these conditions the ovary, placed at rest as it was for a period of nine months and elevated out of the pelvis, tended to become less painful, and if proper care was taken to insure normal involution of the uterus and its ligaments, the displacement often did not recur after delivery. The fact that many of these patients were neurasthenics was a factor to be borne in mind in counselling any operative treatment. The improvement of the general health was of far greater importance. Indeed, sending the patients away from home, the regulation of the marital relations, and a few words of advice to the husband, was often of the greatest possible benefit. He could not understand how any abnormality in the position of the ovary could play any very great part in the production of cystic degeneration of these organs. Nor did he understand how the action of gravity could have any great effect. He was under the impression that the intra-abdominal pressure acted equally in all directions, and gravity could hardly have any influence on the ovary apart from the other disease inside the peritoneal cavity.

Dr. BRIGGS believed that operation for uncomplicated ovarian prolapse was very rarely necessary. Some of the uncertainty in the results of fixation operations was attributable to the complications of neurosis or minor organic disease, the nature and extent of which were occasionally unknown to the operator.

Dr. EDEN said he was quite disposed to think that the operation described by Dr. Bonney might prove to be useful in cases of uncomplicated ovarian prolapse, which resisted all other

methods of treatment and were not associated with well-marked neurasthenia. Such cases did occur, although they were rare, and he could not quite agree with Dr. Herman's dictum that prolapsed ovaries gave trouble to none but neurotic women. With regard to cases complicated by retroversion of the uterus, or inflammatory disease of the uterine adnexa, he did not think that shortening the ovarian ligament would be required as a routine practice in such conditions. He quite agreed with Dr. Bonney as to the importance of conserving the ovaries, especially in the case of young women; but most cases of salpingo-oophoritis were due to infection, and the question which the operator had to face was whether by leaving the ovary he would not also allow a form of infection to remain which would give rise to further trouble in future.

Dr. Victor Bonney, in reply, pointed out that his paper dealt solely with the *surgical* treatment of ovarian prolapse and its allied conditions. He had taken it as understood when addressing the Obstetrical Society that proper care and observation should be exercised to exclude neurasthenic cases. Such ordinary precautions were always exercised, he had thought, by accredited gynæcological surgeons. He totally disagreed with Dr. Herman's sweeping statement. As Dr. Briggs had pointed out, it was impossible to recognise certain forms of ovarian or tubal disease by vaginal examination. Many of these prolapsed and painful ovaries were found on operation to be associated with degrees of adhesive salpingitis. No one had a right to assume omniscience in these cases. Whilst it was true that in a certain number of those he had included under Group A the symptoms were largely neurotic, yet in others there could be no doubt as to their reality. The anatomical considerations he had referred to were not to be passed over so lightly, and the easy process of labelling all these women as neurasthenics was unscientific. He agreed with Dr. Blacker that a further pregnancy sometimes cured these patients, but he could not follow him when he said that the force of gravity did not act within the abdominal cavity. This was a surprising statement. How, then, was the shifting dulness of ascites and the gravitation of extravasated fluids and heavy tumours into the pelvis to be accounted for? Exception had been taken to the practice of shortening the ovarian ligaments when performing ventro-fixation, but examination would make apparent the extent to which they were often elongated. There could be no doubt that the present surgical treatment of the cases included in Group C was far from satisfactory. The patients returned later on with post-operative retroversion, and (if the ovaries had been conserved) with fixed ovarian prolapse. It was to remedy these evils that he had adopted the procedure described.

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